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AND

Teacher on the Human Constitution.

BY DR. WM. A. ALCOTT,

Author of the "Young Man's Guide," "Young Woman's Guide,"
"House I Live In," "Young Husband," "Young Wife,"
"Young Mother," "Young Housekeeper," "Water Cure
for Debilitated Young Men," "Vegetable Diet,"
"Tea and Coffee," "Tobacco," &c., and
Public Lecturer on the Laws of Health.



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LIBRARY OF HEALTH.

THOUGHTS ON MILK.

ITS USE AND ABUSE.

MILK is, as a general fact, the first food of all mankind. Nor is its use confined to any age or condition. Few individuals, and still fewer whole tribes or nations, reject it wholly. Perhaps the Japanese, who have the same dislike to it which we have to blood, are the only whole people called civilized, who do not use it at all.

An article of food so general is certainly worthy of our careful consideration. We are the more disposed to present a few thoughts concerning it, at the present time, because the question of its excellence has been for some time past considerably agitated in New York and elsewhere, and because we receive frequent communications from our subscribers requesting information on the subject. We have indeed treated on it briefly on former occasions; but not to the extent which its importance demands.

The milk of the cow is most used as an article of human diet; though that of the camel, sheep, ass and mare is in considerable demand, in some countries. The general character and properties of all milk are the same. "It is essentially an emulsion of albumen, oil, sugar, and a peculiar principle, suspended in a large quantity of water."

When received into the healthy human stomach, milk is changed by admixture with the appropriate fluids, the saliva, the gastric juice, &c., into a solid curd, that is, a soft solid, and a fluid like whey. This fluid part, being mostly water, is absorbed by the vessels of the stomach, and added to the general mass of circulating fluid, after which the solid part, or curd, is digested like any other solid substance.

The change which takes place when milk is suffered to stand in the open air, is somewhat different from that which takes place in the human stomach. First, an oily substance rises on its surface, known universally by the name of cream; which is again divisible, by much agitation, into a denser oil called butter, and a thinner liquor, called buttermilk. Both these products, however, the butter and the buttermilk, may be procured by the violent agitation of new milk. The mass which remains after the cream has risen, is at length changed into curd and whey, the former floating in the latter. Cheese consists of this curd, separated by artificial means, before the milk has become sour.

Cows' milk may be regarded as, on the whole, the richest sort of milk, unless it be that of the sheep. That of the goat and the camel, however, very closely resemble it. That of the mare and the ass, especially the latter, more nearly resembles human milk. Those who may be surprised at this statement, in respect to the superior richness of the milk of the cow and sheep, should recollect a fact which universal experience has fully established, viz., that cows' milk cannot at once be safely substituted for human milk, in the management of infants, but must be mixed with about one third water, and a little loaf sugar.

The following is an analysis of the milk of various animals, as made by the celebrated French chemists, M.

M. Parmentier, Deyeux and Vauquelin. The quantity of each kind subjected to experiment was 100 pounds. Thus 100 pounds of cows' milk contain $4\frac{1}{16}$ pounds of cream, $2\frac{1}{16}$ of butter, and so on, as in the table.

	Cream.	Butter.	Cheese.	Sugar.
The Cow,	$4\frac{1}{16}$	$2\frac{1}{16}$	$8\frac{1}{16}$	$3\frac{5}{16}$
Woman,	$8\frac{1}{16}$	3	$2\frac{1}{16}$	$7\frac{3}{16}$
The Goat,	$7\frac{1}{16}$	$4\frac{9}{16}$	$4\frac{5}{8}$	$4\frac{2}{5}$
The Ass,	$2\frac{1}{16}$		$3\frac{1}{16}$	$4\frac{1}{5}$
The Sheep,	$11\frac{9}{16}$	$5\frac{1}{16}$	$15\frac{3}{8}$	$4\frac{3}{16}$
The Mare,	$\frac{1}{16}$		$1\frac{5}{8}$	$9\frac{1}{16}$

It is easy to observe, in the foregoing table, the exceeding richness of the milk of the sheep, in everything except sugar, in which it falls behind most of the other animals. It will be seen also that human milk contains twice as much sugar as that of any other animal, except the mare. Again, it will be observed that the milk of the ass and mare afford no butter, and but a small quantity of cream; while the human milk contains a very large amount of cream, and some butter. In short, the table is one of great interest, were it regarded merely as a curiosity.

Milk is, of course, a species of animal food;* but it has a strong resemblance in many respects to vegetable aliment. It is, however, one of the least nutritious of aliments, if we except the more succulent vegetables and fruits, containing, as we see, only about 20 parts in

* Some of the friends of an exclusively vegetable diet, go so far as to contend that milk is not animal food. It is, indeed, an animal secretion, say they, but can hardly be considered as animal food. Yet what is oil but an animal secretion? And now if oil is not animal food, pray what is? But if oil is animal food, so by the same rule is milk. No one will contend, surely, that milk is a vegetable or a mineral.

100 of nutritious matter, (the remainder being water,) except in the case of the sheep; whereas the good potato contains 25 parts in 100 of nutriment. But then it is pretty easy of digestion, when taken slowly, and intermixed with saliva, as in the case of the infant. It was indeed formerly supposed that it required no digestion, but passed on into the lacteals, and thence into the blood, without undergoing any change; but this opinion is now known to be erroneous. No substances which contain nutriment can find their way into the blood—at least without disturbance and serious difficulty—until they have undergone the process of digestion; and milk must undergo this change, as well as anything else.

The general intention of milk must be obvious. For the class of animals called mammalia, it is a most happy medium between the natural food of the incipient or embryotic state, and that of later life, as fruits, farinacea, &c.; and in the present arrangement of things, every species of mammalia, man not excepted, would, as a species, perish without it. Even the milk of another species of animal is substituted for that of the parent with no little difficulty, as we have abundant evidence in the attempts to rear children by means of the sucking bottle.

While milk, however, is to be regarded as the appropriate food of infancy and childhood, it is not quite so well adapted to the perfectly healthy adult as to the infant; and if used at all by him, should be used sparingly and with discrimination. We repeat it, this substance is most happily adapted to the infant and the child. It is less highly animalized, and consequently less heating and stimulating than blood, or flesh meat containing oil and blood, but more stimulating and heating than farinaceous substances and fruits.

The milk of every animal—and what we are going to say is especially true of human milk—is thicker, more

abundant, and less inclined to acidity, when the female is well nourished, and is healthy and vigorous in body and mind. If it be desired, therefore, to increase the milk, that is, to increase the mass of real nutriment, we must increase the general health of the individual affording it.

Dr. Dunglison says that milk is more abundant when animal food is used, and less so when the food is exclusively vegetable. But this cannot be true, without much qualification; for we often see a surprising increase of the quantity of the milk, as the consequence of a free use of water gruel, in preference to better food. He says also that individuals using animal food have the thickest milk; but if this be so, how does it happen that the milk of the sheep is so exceedingly thick? Does the sheep use animal food?

This shows how little writers on hygiene are to be trusted when they come to reason in matters where they are blinded by preconceived theories, or enslaved to improper habits. Thus it is next to impossible to trust the quaffer of hot drinks, when he reasons about tea or coffee; the wine drinker, when he comes to write or talk on fermented drinks; or the flesh eater, when he comes to talk about animal food or its effects. Solomon said "the destruction of the poor is their poverty;" and he might also have said with equal truth, "the destruction of the slave—whether enslaved to bad habits or to anything else—is his slavery." Our power of reasoning correctly is probably in due proportion to our *freedom*.

But to return to the character of milk. It is of little use to increase the mere quantity of the milk, while there is no increase of nutriment. Nay, as a general rule, such a result would be injurious. Nor is an increase of mere thickness advantageous, if to procure the change, as may happen, there is a positive loss of nutriment. We repeat it, the only way to improve the milk without

diminishing the quantity, or to increase the quantity, without injuring the quality, is to increase the general health and vigor of the animal or individual which affords it.

Hence we see why the milk of animals fed on still slops,* or any other slops, even tea and coffee, cannot be so good as that of those which are fed on better food; why the breathing of impure or over-heated air will also injure the milk; and why all animals which give milk need abundant and healthful exercise. We see, in one word, why it is that whatever is conducive to health is favorable to the character of the milk, and the contrary.

We may also here see the importance of good moral qualities in a nurse. It is not so much that anger, and malice, and revenge, and peevishness, and melancholy, in a nursing woman are transferable to the child, directly; † although, for aught we know, this may happen, in a slight degree. The bad passions of a nurse injure the child at her breast, chiefly because they are connected, in her own character—whether as cause or effect, or both, we will not stop to determine—with a bad state of the body; that is, with ill health. No person who is under the habitual influence of any bad passion can be perfectly healthy; nor—if the health of the milk always corresponds with the general health—can secrete or furnish perfectly healthy milk. But milk which is imperfect, cannot, of course, be as appropriate food as that which is perfect.

* Our readers are already more or less acquainted with the history of the excitement which has lately prevailed in New York, on the injurious tendency of giving still slops to cows.

† Of the influence of example we do not here speak. Our remarks have reference only to the effects of moral qualities on the body, and on the milk, one of its secretions.

There is, however, another evil connected with the secretion of milk. In proportion as a female is wanting in vigor, will be the danger of having the milk contain certain foreign bodies, derived from the mother. Thus the milk of cows which are comparatively healthy—nay, and even the butter—will taste of many kinds of food eaten by the animal; as the turnip, the wild onion, bitter weeds, &c. So it is, indeed, with any other animal, as well as the cow. But the milk in these cases will taste of the substance in question, just in proportion to the feebleness or bad habits of the animal; probably because the organs for secreting the milk being somewhat enfeebled, do not perform properly their office; and it is not properly and fully elaborated. A young, healthy female, of a good and happy temper, well clothed, fed, exercised, &c., will, it is believed, have her milk least affected by these foreign bodies; while one of the contrary kind will, as we have already said, furnish milk of a contrary character.

Hence the danger—diseased, as most females among us are—of allowing them to use coffee, tea, fermented or distilled liquors, medicine, &c., while they are nursing. It may indeed be true, that *perfect milk* from a *perfectly healthy person*—could such an one be found—would no more contain anything the mother had been eating or drinking, than it would contain something which somebody else had eaten fifty miles off. It would be a true secretion, as really as the bile or the saliva. It would be milk and nothing more; and if all people were alike healthy, their milk might, very probably, be alike in quality. The fact is, we have no perfectly healthy mothers, and consequently no perfectly healthy milk. It is not only liable to be bad, both on account of the change in its sensible properties and chemical qualities, but also on account of the things eaten or drank by the mother, and held by it in solution.

We have said that milk was intended, primarily, as the food of the young. This is no doubt true; and were all mankind in a perfectly healthy state, or as some call it, a *normal* state, it would probably be correct to say that it was not intended for adults; or at least, that it is not *best* adapted to the wants of the adult constitution. But as mankind, universally, are not only the slaves of bad habits, but the subjects of disease, and as neither the habits can be changed nor the diseases cured, in a moment, with safety, we may sometimes use, for a time, an article of food or drink which is not the very best for our constitutions, were they in a normal state.

Precisely of this class of substances is milk of every description. There are many persons who, in their present state of health and vigor, need a greater or less quantity of this liquid. In some states of society, these persons are more numerous; in others, less so.

Let us not be misunderstood. We are far from condemning the general use of milk, taking things as they are. We are only endeavoring to teach the whole truth. Thousands of persons, nay, we might say most persons, use a diet so complicated, and in many respects so objectionable, that they would be great gainers by a return to milk. First, on account of its simplicity. The milk eater does not generally use half a hundred sorts of food at the same meal; and herein is a great advantage. Secondly, he is not so apt to overtask his stomach with excess of nutriment. For though so large a quantity of water or whey as is contained in a pint or more of milk, taxes the absorbent system rather largely, still the burden can be borne better than that of three or four times the necessary amount of nutrition. For he who takes twenty ounces of milk, only gets thereby four ounces of nutritious matter, at the best. But thirdly, milk is really less objectionable, in itself considered, than

many other articles common on our tables ; and it would be a reform, or at least a step in the progress of reform, if a large proportion of the community could be led to its use.

Such a concession, however, is no more saying that milk is, in the abstract, the best food for adults, than it is saying that wine is a proper drink, when we say that it is better than blood, or even than distilled spirits. For our own part, we have no doubt that the conversion of a hundred thousand spirit drinkers, consuming their quart of spirit each in a day, to the use of a quart of light wine, containing only one fourth or one fifth as much alcohol, (although we believe the use of wine, besides being injurious in itself, leads to the use of spirits,) would be in itself considered a great public good, and should be encouraged by every friend of temperance, who could do nothing more or better. But is this saying that wine is, in strict truth, a proper drink for the healthy ?

This may be the appropriate place for saying a word to those who think they cannot bear milk, though they can bear almost any other food. Such a condition of the stomach, if it be real and not imaginary, constitutes, in respect to this article, what is called by medical and hygienic writers an idiosyncrasy. We think, however, it may generally be overcome. Most persons may bring themselves to relish and digest and enjoy milk, if they will. Water sits heavy to some abused stomachs, and they think they cannot bear it ; but will any one believe in any idiosyncrasy in respect to water, which cannot be overcome ? Is not milk as natural to the human constitution, at least in infancy, as water ?

We have already admitted that milk is animal food. Still it does not seem to involve, at least directly, and in all cases, the destruction of animal life. Dr. Darwin says we make a fair bargain with our domestic animals

for their milk, giving them in return for it their stated supplies of food ; so that those who object to the use of animal food, as they probably think the most of the *moral* objection to its use, will feel less difficulty in admitting milk as an article of diet, than in the admission of other articles of the same general class, which involve the taking away of life, and as it is supposed, the benumbing of the moral sensibilities.

Milk is moreover believed to be adapted to almost all states of ill health which are accompanied by an irritability—perhaps a slight degree of inflammation—of some of the organs, especially those of the chest ; a state of things often indicated by a florid complexion, frequent flushings of the face, and burning of the palms of the hands and the soles of the feet, accompanied by a pulse too quick, and somewhat too frequent. It seems to be just stimulating enough to sustain life where its powers are rather languid, but not enough so to excite, at least immediately, arterial action. On the contrary, as we have elsewhere observed, by its gentle influence on the nervous system, it diminishes that action.

When to this general condition of the system is added a chronic cough, with some degree of thirst at evening, and occasional turns of sweating, this article of food appears to be still more indispensable ; and has often appeared to be the means of prolonging life for many years. Even where the consumptive symptoms have been quite marked, a diet of bread and milk has afforded very great advantages, and sometimes appeared to effect a permanent cure.

It is true, it may be questioned whether a part of the benefits which have been conceded to milk are not justly attributable to simplicity. In making the change from an ordinary diet to one of milk, we generally leave the use of half a dozen or a dozen articles at the same meal, as

has already been mentioned, for that of only two. This alone would do a great deal towards restoring health.

To those who have a slow pulse, or a bilious temperament, or who are inclined to plethora, or even to corpulence, and perhaps those who are troubled with eruptive complaints, milk seems to be but poorly adapted.

In regard to the QUALITY of the milk which is used, in the circumstances to which we have alluded in some of the preceding paragraphs, we hardly need to add more ; since our views, in the main, may be collected from what has already been said. As it is a point of no little importance, however, we may venture a few further remarks.

In order to have the most perfect milk, the cow should feed chiefly on grass and hay, with the addition, perhaps, of fruits. She should be young and healthy,* and of a healthy stock ; and should have plenty of air, and a wide range of pasture. She should not be housed too closely at night, even in winter. Nor should she be kept—in order to have her milk most perfect—in or about a thickly settled town or city. The air in such places, though it may seem free and pure, is more confined and less healthful than among the hills and mountains, where the population is less dense. Besides, the unnatural and forced vegetation in such places is apt to contain more or less of poisonous plants, such for example as the buttercup—which, when hard pressed for food, or when care-

* Dr. Willich says that she should be about three or four years old ; and so say many other writers on dietetics. Here a question starts up in the mind of the curious inquirer, Why is it that milk from cows above three or four years old is more doubtful ? Is it not that, as they grow older, our mistaken treatment of them, and the impurity or imperfection of our best grass and hay in highly cultivated places, produce disease ? We have no doubt that this is the true answer to the question.

less, the cow sometimes eats. Not only are the grass and hay in these situations of a doubtful character, but so are even the vegetables which are raised—enriched as the soil too often is, by recent and acrid manures.

These facts—or rather the facts to which we have in the last paragraph briefly alluded—will account in some measure for the condition of the cows in Paris and other cities of Europe, all of whom, we are assured on high French and British authority, when confined, become tuberculous.* It will also give our readers an imperfect idea of the danger which is to be apprehended from the use of milk from cows fed in or about our own cities. The hot and warm slops, messes of turnips, carrots, cabbage, &c., together with the deteriorated air and water, and too warm sheds and houses, injure their health in some way, and thus injure the milk, as inevitably as iron or lead sinks in water. But let it be remembered, diseased milk received into the human stomach can never be as favorable to health as that which is pure and perfect.

A great mistake is made by those who eat milk, in regard to the quantity. Most people eat by far too much. The person who even confines himself to milk—a diet which we should of course seldom recommend to any beyond the age of infancy—should rarely use more than two or three pints a day; whereas many persons eat two or three pints at a single meal. An adult person, on first commencing its use, should not exceed a gill a day, half of which should be taken at breakfast, and half at dinner.

* Lest this term may not be intelligible to every reader, we ought perhaps to state that by tuberculous, we mean a state of the organs, especially the lungs, in which they contain numerous small knobs, called tubercles, which may be regarded as the seeds of consumption.

Milk is not only eaten in too large quantity, but with too great rapidity. The milk swallowed by infants is probably mixed largely with the saliva; and we have no doubt this is one principal reason why it is so much better adapted to their stomachs than to ours. The coagulum which is formed by a proper admixture of saliva, as well as of gastric juice, must be more easily digested than that which is formed from milk hastily swallowed, whether by the infant or the adult.

As we cannot, however, expect everybody to imitate the infant in its manner of receiving this kind of food, the question is, in what way we can approximate most nearly to it.

Some drink their milk from tumblers or other vessels. A larger proportion, however, eat it from basons or bowls, with large spoons. It makes little difference, in point of fact, which of these methods is adopted; for those who eat milk with a table spoon seldom combine much saliva with it. It is little more than swallowed, after all. It is neither masticated nor insalivated.

In general, the slower milk is eaten, the better it is. We remember a good old lady, in our younger days, who gave her child a small spoon to eat bread and milk with; and we remember, too, what feelings were sometimes manifested. Eat bread and milk with a tea spoon! he exclaimed. Who ever heard of such a tedious way of satisfying one's appetite? And yet we have not, at present, a single doubt that he would have been much healthier now, had he taken a maternal lesson or two on this subject.

There are two objections to eating bread and milk in the common way, with great rapidity, leaving out of the question the quantity consumed. First, the milk is swallowed without being insalivated; secondly, the bread, being soaked in the milk, is also used without either much mastication or insalivation. Whether the bowl or spoon

used for the purpose we are now considering be large or small, it were far better to eat the bread and milk separately from each other, and to eat both exceedingly slow. In this way, the bread is eaten in the way it ought to be; and the milk is eaten in a manner which, if it be not nature's own, is at least an approximation to it. Still, to repeat, in substance, a former sentiment, there are thousands to whom the substitution of the common use of bread and milk, in the common manner, would be a great and beneficial change.

The proper hour of the day for receiving this food is also a matter of importance. Liquid food, in general, from the very fact of its being difficult of digestion,* should be taken if taken at all, when we are most vigorous, that is, either at breakfast or dinner. Some will find it preferable at one of these meals, some at the other, according to their tastes; for it should not be forgotten, that when the difference in our vigor is so inconsiderable as it is at breakfast and dinner, we may safely incline to the meal at which, from our previous habits and preferences, it will relish best or be most agreeable. Some will prefer to use it at both meals, properly though perhaps unequally divided.

We have said that liquid food should, as a general rule, be taken either in the morning or at noon, and not at evening. There is not the same objection, however, to the use of milk at evening, which exists against the use of broths, soups, gruels, &c.; for strange as it may seem to some who have never reflected on the subject, milk can hardly be considered as liquid. It is, strictly speaking, a soft solid; that is, it becomes so in the stomach, forming

* The *general* reasons *why* liquid food is difficult of digestion cannot be given in an essay like this. They belong rather to the philosophy of digestion.

a coagulum there ; whereas in the case of gruel, soup, &c., we have no such coagulum.

We are not of course ignorant, that milk in all the various customary forms of receiving it, is often taken at supper ; and that too, sometimes at least, in very large quantities. But who are they that eat it at this hour ? Are they not chiefly those classes of men whose other physical habits are, as a general rule, comparatively healthful, so that an occasional abuse, even though habitual, will not break them down at once ? Are they not the farmer and the mechanic, living much in the open air ? To say that because heavy suppers—consisting, perhaps, of a quart or two of milk at a time, with bread, pudding, or fruit in proportion—do not injure men of these occupations, since they are not always, nor indeed often, made immediately sick by them, would be just about as reasonable as to say that drams of spirits taken three, four or five times a day, by the same class of persons, do not injure them ; and for the same reasons. We do not of course undertake to say, that the evil of dram drinking is no greater than the evil of using heavy milk suppers, but only that they are both alike violations of the laws of health and life ; and though the punishment should follow both, at a period ever so remote, it is equally inevitable.

But there are numerous ways of using milk as an article of diet, besides that of which we have spoken. We will enumerate, briefly, a few of them ; stating which, in passing, we deem preferable.

One common use of milk, in many parts of our country, is with hasty pudding. We regard hasty pudding as far from being of the first order, in point of excellence, as food, because it is usually taken, almost of necessity, without much mastication ; but when, in addition to this, it is smoothed down and washed down by milk, we regard

it as quite objectionable. With boiled corn, and with hommony and rice, which require, and we trust usually receive * much mastication, milk is more tolerable.

Milk, when poured in small quantity on slices of bread, whether toasted or otherwise, is comparatively excellent. This is using it rather as a condiment, than as a principal article of food ; and to those whose constitutions require milk, and who cannot be content to sip it slowly and eat the solid substance separately, is very proper.

There are several forms of making milk porridge and milk toast. We do not know that milk is much injured by boiling it ; still, the labor of boiling it is usually lost. If toast is to be used at all, milk toast is preferable to any other combination. Butter, especially, ought never to be used. A small quantity of hot water poured on toasted bread, is a very pleasant indulgence to those who are fond of simplicity, and have not resolution to come quite up to it.

Potatoes in milk or with milk, are less objectionable than some other kinds of food, because this does not prevent mastication so much as in many other cases. In other words, we masticate the potatoe, if not mashed, nearly as well in one case as in another.

As a condiment, rather than as a principal article of food, and to those whose constitutions or health seem to

* We are ashamed to add, however, that owing to the force of early and long habit, we never knew till since we commenced this article, either the pleasure or the advantages of eating such articles as rice, hommony, &c. Though blessed with good teeth, we were never taught to use them in eating articles of this description. Ours was the lazy habit of swallowing them unchewed. But we have now found out our error ; and what is of very great importance, we have also found out that when food is properly masticated, the stomach is satisfied with much less than the usual quantity.

require it, a small quantity of milk poured on bread, rice, hommony, arrow-root, tapioca, sago, potatoes, johnny-cake, boiled corn, peas, beans, apples, pears, squashes, strawberries, whortleberries, blackberries, raspberries, and even currants, if the latter are to be eaten, is agreeable, to say the least.

We have mentioned apples. Some cut the ripe mellow apple into their milk, and eat it thus. Others cut it up, and pour milk on it, on their plate. Others still, crush the mellow apple, and then pour milk upon it. The last, to a fastidious appetite, is the more nice and delicate, as it thus absorbs a larger quantity of milk; but it is, at the same time, in the way of mastication. Not only may milk be used with these fruits in a raw state, but also with most of them when cooked, whether by baking or otherwise. Sweet apples, whether with milk or alone, are of course preferable.

Another method of using milk, is by putting it into bread. Some persons prefer it for this purpose when a little sour; and for the same purpose, often use buttermilk. But if anything of the kind is used, it should be sweet new milk. Such a mixture makes bread much shorter, and to perverted appetites—such as most appetites among us are—renders it more agreeable. Of all mixtures of the kind, even of sweet milk and bread, we believe, however, with Dr. Dunglison, in his *Elements of Hygiene*, that they are “more or less rebellious.”

As to sour milk, though much used in many parts of our country, and though it sits quite gratefully on the stomach when once habituated to it, we cannot commend its use. Much less are we disposed to encourage the use of coagulated milk, or *bonny-clabber*, as it is called; so much used in many parts of our country, and by many, highly esteemed.

We have spoken of pouring milk on toasted bread. Without our protestation to the contrary, our remarks will probably be at once construed into a license of *toasting*. So difficult is it to treat on these subjects, without either stopping to guard ourselves at every step, or being misunderstood. Now the truth is, we are not fond of toasting bread or anything else. Moist bread may sometimes be dried by the fire, rather than toasted, with advantage; but what is usually called toasting bread, rather injures its qualities than improves them, besides generating new and noxious products. But we must speak of bread elsewhere, and not under the head of *milk*. All we mean to affirm is, that if people will eat toasted bread, a small quantity of good milk poured on it, is one of the least objectionable forms in which the latter article can, by adults, be employed.

We may here be permitted to say a word or two on cream. This is a capital article of food—if any animal food of the greasy kind except milk is to be used; and is far better than butter or even cheese. Still, milk is better than either, and will be preferred by all whose tastes are not so far perverted as to be unable to discern between the evil and the good.

Our present purpose is to speak of milk, without saying much of its products, butter and cheese. Nevertheless, since we have spoken of cream, it may not be amiss to make the following brief quotations from Dr. Paris, on milk and its products, extracted from his work on Diet. We do not quote them as being our own sentiments exactly, but because they approximate to the truth, and show that one who was probably as great a lover of butter and cheese as ourselves, was compelled, by the force of truth, to give testimony not wholly and exclusively in their favor; though he does not touch the main arguments against their use.

"MILK is easily assimilated, and therefore affords a quick supply of aliment to the system, while it does not excite that degree of vascular action *which is produced by other animal matters*.^{*} Its nutritive powers may be increased by various additions, which have also, on some occasions, the effect of correcting its natural tendency to acidity; and on others, of obviating the costiveness it is liable to occasion. Such objects are sometimes fulfilled by adding oatmeal to it. In common cases of dyspepsia, milk would prove injurious. With some practitioners, it is a custom to recommend an admixture of lime-water with milk, to prevent the acidity which it is apt to create in feeble stomachs.

"Although nature has presented us with this compound fluid for the purpose of nourishment, and although it is evident that its several ingredients are wholesome, and designed for the various objects of aliment, yet when *separated by art*, they are frequently unwelcome to the stomach. That viscus would appear to dislike the interference of the cook, in the performance of an analysis which its own powers are so well calculated to perform. We are well assured that the first process which takes place in the stomach, for the chymification of milk, is its separation into curd and whey; and yet the former of these substances, when obtained by art, frequently proves highly oppressive to the stomach, and sometimes occasions obstructions in the bowels.

"CHEESE, again, which is nothing more than the coagulum of milk, pressed, salted and partly dried, with a portion of butter which, having been enveloped in the

^{*} We wish the reader would mark this passage, and think of it. This incidental concession of Dr. P. in regard to the injurious tendency of animal food on the circulatory system of adults, and its contents, is worthy of general attention.

curd, is not afterwards separable, is one of the least digestible of our aliments, and is only adapted to strong stomachs, and to such persons as use great and constant exercise. When *toasted*, it is still more injurious, from acquiring a tenacity of texture highly hostile to the digestive functions of the stomach.

"BUTTER, from its oily nature, is apt to disagree with delicate stomachs; and when rendered empyreumatic by heat, produces heart-burn, and other distressing symptoms. The use of hot buttered toast, or muffins, should therefore never be allowed to dyspeptic invalids."

As we have spoken of the importance of having the animal which affords us milk in perfect health, and of the danger of feeding on still slops and other pernicious food, it seems desirable that in closing we should say something on poisonous milk and its consequences, that any who are indolent may see their danger in colors sufficiently glaring to induce them to avoid it, and that all may know what the danger really is.

Dr. Dunglison, in his *Elements of Hygiene*, at page 277, has the following remarks:

"It would seem that milk may occasionally acquire poisonous properties. Of this an instance occurred a few years since, at Aurillac, in France. Fifteen or sixteen customers of a dealer in goats' milk, were attacked simultaneously with all the symptoms of cholera; and about twenty-four hours afterward, the goat was taken ill with the same affection, and died in three days. Professors Orfila and Marc, who were appointed by the Society of Medicine of Paris to report upon the case, stated it as their opinion, that in this and similar cases, some poisonous change had taken place in the milk, which gave occasion to the formation of new principles under the vital process."

We may infer from the reference in the report of Professors Orfila and Marc to *similar cases*, that this was by no means a solitary instance. Our readers have already been made acquainted with some of the facts in relation to the "milk sickness," as it is called, which prevails in large portions of the western and southwestern states; and which it is pretty evident, is caused by something eaten by the cows. We will now venture, in closing, to make a few extracts from Whitlaw on Fever; where, however, he is speaking of cows' milk exclusively:

"It is well known that the milk may be improved or deteriorated by the food of the animal. Now if the greater part of our pasture lands be overrun with noxious weeds, and if it be a matter of fact that the animals are compelled to eat these weeds from necessity, I would ask any thinking man, how is it possible for the milk to be wholesome, if the food of the animal is made up of rank grass and poisonous weeds?"

"The buttercup and other noxious plants produce a high degree of ulceration in the stomach and intestines, as any person may observe by examining the manure of the animals in the summer months, being mingled with blood and matter, and frequently with portions of the mucous coat of the stomach and bowels; which never happens to animals fed on wholesome pasture. The dairy cows in London feed on the buttercup and other poisonous plants, cut in the summer for food; and there is not one out of twenty but have diseased livers.*"

* Things may not be quite so bad about Boston and our other American cities. Yet even here, the buttercup greatly abounds, and we believe many other poisonous weeds and plants, induced by recent strong manures, which are rank poison to the land, and poison the vegetables which grow on it;—and if the cows and other animals succeed in avoiding these strong rank grasses and weeds in the summer, they often eat them in the hay in winter.

“When cattle are fed as above, the stomach, bowels, liver, and the whole viscera become inflamed and ulcerated; the bile and the acrid matter mingle with the chyme and chyle, and pass into the circulation to form part of the body of the animal, rendering the flesh a corrupt mass of disease, and highly injurious to those who eat it. The milk, butter and cheese are still more pernicious.

“When we consider that such milk forms the principal food of children, as well as the corrupt milk of their mothers, composed of the assimilated juices of bad food, I must pronounce the use of such milk and animal food, in infancy, to be one of the most fruitful sources of disease that can be imagined. Does not common sense teach us that when such food is taken into the stomachs of children, it becomes assimilated, and forms a part of their constitutions, producing inflammation, fevers, and all the diseases incident to childhood? We feed them with noxious stuff until their stomachs become deranged to that degree, that everything they eat passes at once into the acetous and acrimonious fermentation. The milk immediately forms an indigestible curd in the stomach—the acrid oil producing the most active inflammation. A dose of calomel is perhaps given for the purpose of relieving the poor sufferer, which is at once converted into a corrosive poison, and from its excessively stimulating properties, causes inflammations and tumors in the whole glandular system, diseasing the bones, and producing scrofula in its worst forms.”

EASTERN BATHING.

THERE are very few persons among us who have not heard of Mr. Buckingham, the Oriental traveller; if indeed they have not had the pleasure of listening to his lectures on Egypt, Palestine, &c., as they have been delivered in many of our cities. Mr. B. is, professedly, a most zealous friend of cleanliness, and of all the other virtues which conduce to health of body and purity of soul. In his lectures on Egypt, he gives a particular account of one form of bathing as practised in that country, from which we think every individual may derive important hints. The following are his remarks as reported for the New York Observer :

Baths are extremely numerous in Egypt; and so great are the advantages which attend the use of them, that it is greatly to be lamented that they are not universal. They are so favorable both to health and to pleasure, that I could desire no private house should be without its bath; but it is surprising to think that in many cities of England there is no bath at all; or if there may be one, it is in some obscure corner, so far off as to be of little general use.

Among the Mohammedans, baths are as numerous as their mosques. I doubt if in their cities a single street can be found, without one or more of them. There is a general conviction in the East, that personal cleanliness is favorable to morality; while, on the other hand, vice and filth go naturally together. Baths are to be had at all prices. For a single *para*, (in value about one fourth of one of your cents,) you are furnished with a private apartment, hot water, a towel and soap, and have liberty to stay half an hour.

It is common with the Mohammedans to practise ablution before prayer; and they all bathe once a day at least. But while a bath may be had for a quarter of a cent, they ascend in price, according to the scale of accommodation, until, for some, you must pay five dollars. Separate baths are provided for the sexes; and the sanctity of this separation is such, that a man who should violate it would be in imminent hazard of being murdered on the spot.

Entering into one of these costly baths, for example, before dinner, you find a chamber, the windows of which are darkened with colored glass and odoriferous plants. The air is cooled by showers from a fountain. Agreeable attendants are provided to amuse you with conversation. Some of these are *improvisatori*, who will off-hand invent for you an interesting tale, in prose or verse; or if you prefer music, they will sing you an Arabic song, and accompany it with the guitar. You are then conducted into a warm chamber, and thence into another yet warmer.

Here, perhaps, you will find singing birds and some books; but of the latter, the native bathers rarely make any use. Your chamber grows warmer and warmer, till at length you are glad to pull off your clothes.

You are then laid out by your attendants on a marble slab. They are armed with gloves made of the Cashmere goat, which is rough, but not sufficiently so to give you pain. They then commence the process of *champooing* you. They draw out every joint, and let it go, till it cracks like a pistol. They twist about your arms; they bend your elbows, and thence passing down the back, they proceed in a similar manner, till you hear a report from each one of the vertebræ.

Under a process so unusual, a stranger reposes his chief confidence in the fact that others have undergone it before him, and have escaped injury. This loosening of

the joints is said to give suppleness to the frame ; under which persuasion it was practised, as we know, by *Athletæ*, the runners and the wrestlers of the Greeks.

Your persecutors next proceed to a process of violent friction over your whole body, and you are surprised to discover that by means of these various operations, they have actually brought off from your body material substance to the weight of a pound, or even two pounds. Medical men well know that the epidermis is always coated with a deposite, which is the effect of insensible perspiration ; and any one will believe them who has passed through the manipulation I have described.

After it is completed, the skin feels like satin, and partially retains this delightful smoothness for a day or two. I am well persuaded, that half the diseases which prevail among us may be traced to obstructions of the skin ; and that the use of the bath, accompanied by severe friction, conduces in an eminent degree to health and long life.

After you have undergone this series of cracking and rubbing, they finish off by plunging you into a bath of rose-water, up to your neck. You are then furnished with coffee, the *chabouque* or long pipe, and with sherbet, a liquor compounded of the juice of the pomegranate, orange and citron, but contaminated by no admixture of alcohol.

Such an indulgence may be censured as extravagant, and to some persons it would undoubtedly be so ; but those who have money will use it for their gratification ; and if that is the object, I know of hardly any way in which it may be more certainly secured. It is the fashion in London and in New York, for gentlemen to attend public dinners. On the propriety of this practice, I pass no opinion ; but I may be permitted to state what are not unfrequently some of the consequences. A man eats twice as much as he would at home, and drinks three

times as much ; and after vociferating, perhaps, and cheering for three or four hours, he goes home, falls asleep, and gets the night-mare ; wakes next morning, with the headache ; finds his tongue furred, and his nerves unstrung ; sends for the doctor ; swallows physic ; yawns ; is snappish and irritable ; and, in short, is not a man for two or three days after. Then comes reflection, and then regret. Now of the two modes of enjoyment, which is the more rational—an oriental bath, which costs you five dollars, and leaves you next day a healthier and a better man, or a public dinner, which costs you ten, and leaves you the wish that you had staid at home ?

HINDOO CHAMPOOING.

Nor unlike one part of the Egyptian bathing, as described by Mr. Buckingham in the foregoing article, is the *Hindoo* process of champooing. This has lately been introduced into Europe. How strange that cleanliness is so much neglected in the United States ! For though we do not believe that the matter which ought to be removed from the skins of decent people ever amounts to one or two pounds, as intimated by Mr. B., we do most fully believe that the coating which covers, like a varnish, the skins of most people claiming to be decent, but yet neglecting to bathe, sometimes amounts to several ounces. Nor are these remarks on bathing and champooing—nor is bathing itself—out of place, even in mid-winter. But if the change of habits, which we believe to be so necessary, be not made *this winter*, let a resolution be at least made for the summer. There must ere long be a reform on this subject in our community, if we

mean to be at all a healthy people.—But now for a description of the champooing :

“ One of the attendants on the bath extends you on a bench, sprinkles you with warm water, and presses the whole body in an admirable manner. He cracks the joints of the fingers and of all the extremities. He then places your face downward, pinches you over the kidneys, seizes you by the shoulders, and cracks the spine by agitating all the vertebræ ; strikes some powerful blows over the most fleshy and muscular parts ; then rubs your body with a hair glove till you sweat ; grinds down the thick and hard skin of your feet with pumice stone ; anoints you with soap ; and lastly shaves you and plucks out the superfluous hairs. This process continues for three quarters of an hour, after which a man scarcely knows himself ;—he feels like a new being.”

PHYSICAL REFORM.

WE had placed in the hands of a worthy minister of the gospel, not long since, for correction, a written lecture, containing some of the views we entertain on various subjects, and among the rest, on the influence of certain errors in physical education, which are exceedingly prevalent, in regard to moral purity. Our manuscript came back to us accompanied with a letter, from which we make the following extracts :

“ DEAR SIR :—I have read your lecture with much pleasure, and I hope with profit. I saw no sentiments nor expressions in it which I could propose to amend. As to the dietetic course of *prevention*, I am satisfied that

the subject is vastly more important than has generally been supposed, and yet I am too ignorant upon the subject of diet, myself, to be able to form an independent opinion respecting the particular articles of food you would discountenance. You have handled the subject with great delicacy, and yet I should rather have the lecture read in private than delivered to an assemblage of young gentlemen and ladies. * * But if it can ever be done, (that is, if the subject can be adapted to a promiscuous audience,) I think you have done it; for I have never read anything upon the subject more guarded and delicate."

To such a friendly letter, so kindly critical, and yet on the whole so encouraging, we immediately made the following reply. We trust no apology is necessary for inserting it. Our object is, not to push ourselves or our private concerns upon the public, but simply to take the opportunity, which familiar correspondence affords, of explaining, in a familiar manner, the ultimate object of all our efforts at physical reform.

REV. AND DEAR SIR:—I could not help being a little flattered by your note to me respecting my lecture; especially by the remark that it was quite "guarded and delicate," for this I could hardly have hoped. But I do think the subject one of immense importance.

As to the views it involves on diet, while I confess myself to be but a feeble interpreter of the Divine law, I must insist that it speaks a language in this respect not usually understood; and the cause of the misapprehension of mankind—physicians themselves, to a very great extent, not excepted—is their moral alienation; in other words, their depravity. Why is it that the world—even the nominally christian world—have seemed to content themselves so long with the no-harm doctrine—with a merely negative christianity and morality? Why has

it taken so long to induce even a few, to see that christians are bound not only not to hurt themselves or others, but to do good to themselves *and* others ; and that they may err even here, unless they do as much good to themselves and others as possible ? Why, indeed, but that the heart is alienated from God, our Father.

Now the application of christianity to the redemption of the body, is attended with the same difficulties which have always attended its application to the redemption of soul and spirit. People in general—physicians often among the rest—are satisfied with the no-harm doctrine. The question is not—practically at least, hardly even in theory—what physical habits are best for ourselves and others ; best for the present and best for the future ; best for time and best for eternity. The only question asked, as a general fact, is—“ Will it hurt us ? ” We tread as near the precipice as we dare to do, all our days ; and our whole study, in relation to this matter, as a general fact, I say again, is, how near we can go, and not fall off. All is merely negative—nothing is positive.

We must rise to something positive. Is this air, this dress, this cleanliness, this sleep, this food, this drink—in quantity and quality—the *best* for me and those around me, as well as for those who are to come after me—the best for my physical, my intellectual, my social, my moral and my religious good ? I am ashamed of the question, when I hear it asked, in 1838, by christians, in physical, no less than in intellectual or moral matters—“ Will it do me any hurt ? ”

These, briefly, are my views. And now as to diet, one important department of physical improvement, I am very sure that many things in which we are now apt to indulge, must be put away, in the education of my children. If water is proved to be the best drink for man, can I, as a christian—at least in the education of

my children—use that which is second best? If fibrous animal food is better than any measure of that which is purely oily—if it be proved so, I mean—can I use the latter? If farinaceous vegetables and fruits are proved to be preferable to flesh and fish, can I use flesh and fish?

But “doctors disagree.” Yes, they do—moral doctors and physical ones. Yet which disagree most? And who pleads—without qualms of conscience—for the gratification of his lusts and his continuance in sin generally, that the doctors of the *soul* disagree? There is enough of terra firma in both cases; and in either case, when the apology is made that doctors disagree, it is either owing to a want of information, when information might be had—at least with sufficient pains-taking—or to depravity. The laws of life and health are as well settled, were they only as well inculcated, as those of civil society or religion. If they are still cloistered up, or misunderstood, or quarreled about, it is no fault of the laws themselves, nor any proof of their obscurity. If it were so, Religion herself would be at fault.

Pardon me, dear sir; I am going where I did not intend to go when I set out. But I feel a relief in being permitted to defend myself a moment, before one who, I know, has no deeply rooted prejudices, and who would not shut his eyes to light, could he be sure it *was* light. I am sometimes misunderstood by the public; but perhaps the fault may be chiefly my own, in not making myself intelligible. I am less grieved at this than I am that the *cause* is misunderstood. But I have great hope in the future, and faith in God. I believe the time will come when we shall be studious—our race, I mean—to present “our bodies,” our whole being, a living sacrifice to Him who redeemed us.

LONG CONTINUED COLD.

WE are no advocate for having people go too warmly clad. And yet much mischief often results to the human constitution from being subjected to long continued cold. Of this, the following statements, most unquestionably true, may serve as an illustration :

A physician of this city, getting lost once in the night, remained so long in the intensely cold air, that he was nearly frozen when he found his way to a fire ; and from that day to this, though many years have elapsed, he has required nearly double the amount of clothing necessary to keep him warm before.

A worthy gentleman in Providence assures us that being necessitated to ride several days and nights in succession, in the U. S. mail stage, he became so excessively chilled that he has ever since not only required more clothing than formerly, but been peculiarly susceptible to the influence of cold in every degree.

Our own experience has been somewhat similar to that which has been described. Compelled, some two years since, to ride for a whole night—and an exceedingly cold one, too—in the mail stage, and to suffer extreme cold the day following, we suffered the punishment appropriate, the next summer, in severe and protracted general debility, and in an increased susceptibility to take cold, from which we have as yet hardly recovered.

DOSING AND DRUGGING.

Our labors on the Annals of Education—as its editor, we mean—closed with the last volume. We leave it—but we leave it in good hands—that we may be able to

devote more time than before to the subject of health and morals. Our concluding paragraph, or *valedictory*, has the following remarks on dosing and drugging :

“ We are fully prepared to show, did the nature of our journal permit it, that more of life and health are sacrificed at the threshold, by mismanagement, especially by unnecessary dosing, than by any other single cause whatever. From the cradle to the grave, in fashionable society, mankind are, as a general fact, subjected to daily dosing with something which *we* call medicinal—liquid or solid. This perpetual but needless dosing lowers the standard of physical vigor in those who are called healthy ; it predisposes to actual disease ; it has a tendency to render diseases, when they come, more severe than otherwise they would be ; and lastly, it renders medicine less efficient in its operation when it is actually demanded.”

We have said much on the evils and evil tendency of fashionable dosing, in our past volumes, especially the last. But we have not yet done. We mean to speak out *once* more. In our February number, and the March number if necessary, we shall present an extended article, exhibiting the subject in all its length and breadth, and in all its enormity.

NEW PUBLICATIONS.

AS A MEDICINE, or Number Eighteen of Sargent's Temperance Tales, has made its appearance. It is good—very good.

PHYSICAL MAN, by Robert Mudie, is another new but truly valuable work.

THE HOUSE I LIVE IN, fourth stereotype edition, carefully revised by the author, and improved from the late London edition, is also just published.

MORAL REFORMER,

AND

Teacher on the Human Constitution.

NOVEMBER, 1836.

ERROR MET AND TRUTH DEFENDED.

WE have more than once heard it suggested, by way of objection to our efforts to promote health, that we are prescribing for invalids. A late writer in the *Christian Spectator*, in an article entitled "Injurious Effects of Popular Works on Health," though he does not condescend to call us by name, yet inveighs against popular works of all kinds which treat on health, on the ground that invalids are prone to make a bad use of them. He says that, "by fixing the attention too exclusively on the health and organic operations, and by occasioning a kind of feverish anxiety about what we may eat, drink and wear, he believes such knowledge does far more injury than good."

If this statement were something new, if it had not been made a thousand times over, and if it were not universally admitted that the consequences which are mentioned do sometimes follow, we might very properly stop to discuss this part of the subject. But on these points, the difference of opinion between us and the writer above mentioned, would be found so trifling as to be unworthy the trouble of a discussion.

We do not deny that to encourage this watching and tending of the stomach is a sore evil. We do not deny that

a meagre or too innutritious diet is productive of disease. We do not defend the use of weights and measures. Nor have we, in short, ever written with a principal reference to invalids. Our object has been prevention, rather than cure.

But because invalids occasionally seize our instructions, and make a bad use of them, is this a sufficient reason for our silence? Would it be deemed a sufficient excuse for silence in the teacher of morals or religion, that his doctrines were liable to be misunderstood, or perverted, or misapplied, by the *moral* invalid? But is not this as frequent a result—are not mania and consumption even more frequently the results—than in the former case, especially mania?

We are pleased—much pleased—with a great deal of what the writer in the *Spectator* says; particularly where he speaks of the evils of excitement, the general tendency of the community to quackery, the errors of students, and even the errors of those writers on health who address themselves too exclusively to invalids. Had he stopped when half through with his article, we should have rejoiced at its appearance, as on the whole, though mingled with some error, and a good deal of misapprehension, calculated to have a salutary influence on the community.

But when he goes wholly out of his depth, and charges all our teachers on health with discarding nature at the table, recommending weights and measures, writing solely for invalids, recommending an innutritious diet, insisting on bran bread, drawing their conclusions from their own individual experience, &c. &c., what are we to say? Are we to sit still, and by our silence, give a tacit consent to such a tissue of misrepresentations? We would gladly do so, were our own personal character alone involved. But when these strange misrepresentations, however ignorantly made, and however respectable the source from which they emanate, are industriously circulated against a cause which we deem as important as that which we have espoused—we mean, the education of the young on physiological principles—we cannot, we must not be silent.

We should like to know in what part of the writings or lectures of such men as Beddoes, Buchan, Cadogan, Willich, Paris, Combe, Graham, Bell, (the editor of the former *Journal of Health*,) and Ticknor, or in what page of either of our own works, the doctrines above mentioned are to be found. Will the writer be good enough to tell us? To avoid mistake, we repeat the request. In what part of the writings just referred to, is nature discarded at the table? Where is it that an innutritious diet has been recommended? Who has taught that we should eat bran bread? Who is he that has drawn his conclusions solely from his own experience? We have a right—since the charge is so sweeping—to ask the writer to prove what he affirms.

But suppose he should not be able to do so; would it greatly surprise us? Would it be strange that an attempt should be made to palm off upon the public, as truths, a string of mere assertions, by a person who could have the hardihood to make such obvious—we will not say wilful, but what shall we say?—blunders, as are scattered through the pages of his article? We will notice a few more of the grosser of these blunders. The reader will then be able to judge for himself, whether such a writer can be relied on, in matters of fact.

He says that “certain persons will expose themselves to noxious effluvia, such as the fumes of lead, copper, quicksilver, &c., or swallow excessive quantities of alcohol or opium, with entire impunity.” These are his very words!

It is astonishing that a man who has the least claim to common sense, could utter such things in the light of the present day. Swallow the fumes of LEAD, and excessive quantities of ALCOHOL, or OPIUM, with ENTIRE IMPUNITY! Such a thing is impossible; and the writer ought to know it. He cannot find an individual on earth who has done these things with entire impunity. Drowning men catch at straws, and the advocates of a bad cause sometimes catch at something still weaker.

He does not believe that the New England farmers, as a general thing, “eat too much, or food of an improper

quality." It is much to his credit that, for once, instead of bold assertions, he contents himself with modestly expressing his belief; but then he immediately backs it up with the statement that he is pretty intimately acquainted with the farmers of New England.

Now it happens that we are as intimately acquainted with the farmers of this country as it is possible for this writer to be; but our acquaintance has resulted in conclusions quite at variance with his. On this point we feel confident—and perhaps we have a right to do it—that the writer is wrong; and that as a general rule, farmers eat at least twice as much as the best health of body and mind would demand; and that their food is far from being of the best quality. We might cite here the opinions of many eminent men, some of whom are or were physicians. Perhaps it is sufficient to quote the remarks of Prof. Caldwell, of the Transylvania University.

"Eating too much, and of unwholesome articles, is a national evil in the United States. I confidently believe that the thirteen or fourteen millions of people inhabiting this country eat more for *amusement* and *fashion's sake*, and to *pass away idle time*, than half the inhabitants of Europe* united. They consume a greater amount of such articles, in the proportion of *five to one*, than an equal number of the people of any other country I have ever visited."

Did not the doctor mean to include in his thirteen or fourteen millions, the people of New England? And are we to be told by the writer in the *Spectator* that they do not eat too much and that their food is always of a good quality?

He also asserts, in his usual strong manner—for there is nothing like strong assertion, where argument is known to be weak—that there is not a better fed, or more amply nourished, and at the same time a healthier, sturdier, longer lived race of men on the earth than the farmers of New England. It is not strange that one who has never

* Europe contains from 230 to 250 millions of inhabitants.

been out of the smoke of his own chimney, and especially a New England chimney, should say this; but it is strange that one of the regular contributors of the Christian Spectator should say it. We know he will have a majority on his side—we mean, the majority of the people *of whom he writes*—but we *do not* suppose that truth always dwells with the majority. We happen to know, at least, that it does not in the present case.

The old story is repeated, that what is food for one is poison for another. This saying is false, and always was so. As a general rule, what is best through life for one healthy person, is best for all. There are some apparent exceptions, and some real ones; but they are far less numerous than has been usually supposed. Every one knows that the first food, the food provided by the hand of nature, is nearly the same. And it is almost equally evident that the food of subsequent years should be substantially the same. We repeat it therefore—and feel competent to maintain it—that what is the best food for one healthy person, as a general rule, is best for another; and what is poison to one—in the matter of food—is poison to another.

A great deal is said about the accommodating power of the stomach. Yes, the stomach is very accommodating; but how? Just as the conscience, the moral stomach, is accommodating. It may be taught, gradually, to bear with things at first unpleasant, because its sensibility is gradually lessened. We do not deny that the physical, like the moral stomach, may have its sensibilities gradually deadened, till it becomes seared as with a red hot iron; and will almost bear red hot iron, literally. Of this we have painful evidence, in the daily swallowing of food blazing hot, of iced drinks, &c. But not an abuse of this kind occurs, which does not meet with its certain punishment, sooner or later, either in the individual or his posterity. There is no possible escape.

The writer says—to prove that the stomach suffers no injury in exerting its accommodating powers—that we are daily exposed to great and sometimes very sudden fluctuations of temperature; but, in ordinary cases, we

experience no injury from such exposure. 'This is a most unhappy mistake. No injury from this cause? Is the writer a citizen of New England, and is he ignorant that thousands die yearly from diseases which have their origin in these very causes—diseases of the lungs, fevers and consumptions? We are aware that there are other causes of these fatal diseases; but then we know also that the causes in question are always operative, and coalesce with other causes. Whether these exposures to atmospheric variations are avoidable or unavoidable, they injure or at least exhaust too rapidly the vital powers, and shorten more or less, our existence.

We are sorry that a writer in so grave a journal should be so poorly informed on the character and tendency of these accommodations of which he speaks. But then he is not alone. We have met with other wise men—wise, we mean, in some things—who entertained the same superficial notions; but we never met with one who did not, on a moment's consideration of the subject in a physiological light, at once repudiate them.

But is the doctrine, then, of the accommodating power of the human stomach to be wholly exploded? As commonly understood, it is. Still there is something a little like it which is true, and the subject deserves more illustration.

Though there are certain kinds of food, dress, climate, &c. which, under any circumstances, would be *best* for the human race—that is, best calculated to promote health and long life—still man's nature is such that he can adapt himself to things of this kind which are only *second* best; and, as we daily see, secure to himself a pretty good share of health and longevity. But nothing of this adaptation takes place without a diminution—or, if you please to call it so, a sacrifice—of health and life. In other words, life, though an undoubted blessing in the use of food and climate which is not the very best, is yet a greater boon in the *best* climates, and in the use of the best food, drink, dress, &c.; so that it is our duty to endeavor to save our systems, and our stomachs and lungs, among the rest of the organs, from the necessity of that

expense of vitality, or vital sensibility, which must arise in all cases of what is called accommodation ; and whenever and wherever we can, to select the *best* food, drink, dress, exercise, air, climate, &c.

We may now see how much weight the remark of the writer in the *Spectator* is entitled to, when he says that the instinct which regulates breathing can be as well controlled by rules as the stomach. The fact is that we cannot directly control the vital processes of either ; but we can control, in some measure, the food of both the lungs and the stomach. We can choose, to a certain extent, in regard to the purity of the *air we breathe*, as well as the *food we eat* ; and we ought to do it.

Men in health, it is said, who have the least share of common sense, are adequate to their own physical management. Yes, in one point of view they are. They are also adequate to their own intellectual, and moral, and political management. But are there therefore no rules in science, morals or politics, which may be useful in the formation of their habits or characters ? Is all a matter of hap-hazard ? We believe the *Spectator* writer is not the man to admit this. As well might he do it, however, as to take the ground he does. Man is far more dependant on others, and the rules and principles of others, for the formation of his physical than his moral habits, since the former are laid earlier, and are hence more thoroughly inwoven in the constitution. We ought to add—for it is a principle on which we have always insisted—that those who are said to be in health, and not invalids, are precisely the very persons who ought to study the laws of the human constitution, even on their own account ; but more especially on account of others. Like the wealthy capitalist, the more health they have the more they can get, for themselves and for posterity ; but the destruction of the poor—in physical vigor, no less than in pecuniary matters—is their poverty. This is a great truth, and as important as it is universally overlooked.

One of the blunders of the *Spectator* writer is in divulging a secret which the opposers of an exclusively vegetable diet ought to have kept ; and for which we believe

they will not thank him. They have long told us, in the face of facts to the contrary, that if a person once becomes feeble or diseased on a vegetable diet, there is no return to perfect health; at least, that such a return is almost miraculous. But our good friend has incautiously untold this story. He says—"Every physician knows the happy changes, and even the sudden restoration to health, which, in such cases, (the cases which he calls starvation,) are the result of a prudent return to the laws of nature, and a more nourishing and stimulating diet." [We are not, in this paragraph, espousing the cause of the vegetable eaters, but rather that of their opponents.] We think that, for their credit's sake, they ought to be consistent, and that they would do well to be more cautious in regard to the admission of members into their fraternity. If a return to the right path, after such a wide departure from it as to live on vegetable food, be so speedy and easy, how sad must be the results, to the arguments of our good friends the alarmists!

We should be glad to go on much farther in this exhibition of what we are compelled to regard as weakness and ignorance in this writer—not to gratify personal feelings, for we have none—but for the sake of showing what the prejudices and passions of a man who seems to be in the main honest, sometimes lead him to. We might speak of the unfairness of his remarks about bran bread and innutritious food. It is wrong for a person to write on these subjects, who does not know that to propagate the story about bran bread is to propagate a falsehood, since it is not *bran* bread which is referred to; and that to represent good bread, and other good farinaceous food, as a meagre, innutritious diet, is equally unjust and reprehensible.

We are moreover surprised that a moral journal—a *Christian Spectator*—should become the vehicle of so much personal abuse. Upon what strange times have we fallen! Professor Hitchcock and Mr. Graham, it seems, are either dreaming enthusiasts or fools! At all events, they are represented as destitute of common sense; and that not merely once or twice, either. They are treated, indeed, through a series of a dozen pages, with such lan-

guage and epithets as ought to be considered disgraceful, even to low company; but how much more to a CHRISTIAN QUARTERLY! We do think that the respectable association which has, in general, so ably conducted the Spectator, owe it to themselves and to the world—to say nothing of what they owe to the individuals who have been abused by name—to make an apology.

Of course it is not our province—since we are not specially set up for the defence of individuals who are slandered—to take up our pen in behalf of the gentlemen whose names we have mentioned; nor shall we attempt it. But it would certainly give us great pleasure to learn that the writer who has vented his spleen so largely in the Spectator—whether he be an unhappy dyspeptic or not—is doing half as much real good in the world as either of the individuals he abuses, or is more free from dyspepsia. We are not acquainted with the former history of Professor Hitchcock; but if the amount of public labor which he has for a few years past sustained, and which he now sustains, with cheerfulness, zeal and acknowledged ability, is good and sufficient evidence of suffering from disease, then we can hardly help wishing that the world were made up of invalids; or at least that the teachers of our country—the teachers in our colleges, in particular—were of this description. And as for Mr. Graham, who seems to be regarded as fair game for every one—whether blockheads or men of sense—we happen to know that no man is farther than he from dyspepsia. It is a pity those who traduce and vilify, on mere hearsay testimony, cannot be persuaded to make themselves acquainted with facts, as they really exist, before they begin to throw stones and mud with the common herd.

The time will come when this thing will be better understood. The time is at hand, when the author of the article which has elicited these remarks, will be unwilling to be known as such. If he should not find the men whom, in his ignorance and prejudice, he has vilified, to be perfectly spotless, he will at least find them to be very different characters from what he has represented them. They and their efforts, imperfect as they may be, and undoubt-

edly in some respects are, will tell upon human happiness when his ignoble production will have been for ages forgotten.

REFORM IN THE ORPHAN ASYLUM OF ALBANY.

The following, which we copy from the Northampton Courier, is one of the most interesting experiments made in modern times.

IN December, 1829, Mrs. Heely and Miss Wilcox, two benevolent females of Albany, originated the Orphan Asylum of that city. They went out and gathered up the destitute orphans and children of the city, till they had filled their house. These children, which they found in wretched conditions, and many of them in poor health, they provided for, and took care of, with maternal kindness.

This heaven-born enterprise was soon fostered by many of the benevolent and wealthy citizens of Albany, and the little offspring of mercy in a short time became the established Orphan Asylum of Albany, containing from seventy to one hundred and thirty children. Soon after the asylum was fully established, Miss Wilcox left it, and Miss Grimwood became associated with Mrs. Heely in the superintendence of the institution, and Miss Clark became the principal in the department of teaching.

The house at first occupied for the asylum was too small to accommodate so large a number of children as were gathered into it; but great pains were taken to keep it clean and well ventilated. One room was set apart for a nursery or a sick room—and a woman, with sometimes one or two assistants, employed to nurse the sick and feeble. Dr. James and Dr. Green were the attending physicians.

Great attention was paid to the personal cleanliness of the children; and their regimen generally as to bathing, clothing, air, exercise, &c., was intended to preserve and

promote health. Their diet consisted of fine bread, rice, Indian puddings, potatoes, and other vegetables and fruit, with milk ; and to these was added flesh or good flesh soup once a day.

The public interest in behalf of this institution soon became so great, that measures were taken to erect a building in an airy situation, to be permanently occupied for an orphan asylum. A large and commodious house being built on Delaware Square, the children were removed to it in April, 1833.

In June following, Miss Grimwood and Miss Clark visited the city of New York and put up at what was then called the Graham boarding-house, where they spent ten or twelve days, and became fully converted to the system of living observed there. On their return to Albany they suggested to Mrs. Heely the propriety of introducing the same system into the asylum ; but Mrs. H. being decidedly opposed to such a measure, nothing further was said about it at that time. Miss Grimwood and Miss Clark, however, finding their own health continually improving, frequently expressed to each other their increasing confidence in their new mode of living, and their desire to see the system fairly tried among the children of the asylum ; and it was not long before they had an opportunity to gratify this desire.

About three months after their return from New York, Mrs. Heely left the asylum, and Miss Grimwood took her place as superintendent. Miss Clark retained her place as principal of the school, and Dr. Cogswell became the principal attending physician. Miss Grimwood and Miss Clark now set about introducing into the asylum the system of living which they had themselves adopted three months before in New York. Daily ablution of the whole body in the use of the cold shower or sponge bath, or in special cases of disease, the tepid bath, was one of the first steps taken : then the fine bread was laid aside for that made of unbolted wheat meal, and soon after, flesh and flesh soups were wholly banished from the diet of the children ; and thus they continued to advance, till in about three months they had got fully upon what is popularly called "the

Graham system of living," in regard to diet, sleeping, air, clothing, exercise, &c.

It is now more than six years since that institution was established, and about three since the new regimen was adopted,—so that the time has been nearly equally divided between the regimen which embraced animal food and that which excluded it. From the commencement to the present time, new inmates have occasionally been received into the asylum from the almshouse and from the city, and most of these children have been in very poor health, and some of them exceedingly diseased. During the whole period, also, children have from time to time been placed out in families, when they had arrived at a proper age.

The average number of children in the asylum has been about eighty. During the first three years, the changes were somewhat more frequent than they have been during the last ; but during the last three years there has been a larger proportion of very small children. Under the first regimen the children were washed all over once in two or three weeks ; under the new regimen they have been washed all over every morning in the summer and three times a week in the winter. Under the new regimen the house has been much larger and more airy and convenient than that which was occupied most of the time while under the old regimen.

Now then let us look at the general results. During the first three years, or while the first regimen was observed, from four to six children were continually upon the sick list in the nursery, and a nurse constantly employed to take care of them, and sometimes the number of the sick was greatly increased, and one or two assistant nurses necessary. The attendance of a physician was found necessary once, twice, or three times a week uniformly, and deaths were frequent. In the summer of 1832, the epidemic cholera made its appearance among the children of the asylum, and carried off six or eight of them ;—and let it be observed, that during the cholera season the proportion of flesh and flesh soups was considerably increased in the diet of the children. During the whole period of the first three years there were between thirty and forty deaths.

The new regimen, I have said, was gradually introduced at the close of 1833. While this change was taking place, a child was received into the asylum, diseased with scald head. This disease, when once introduced into such an institution, is rarely arrested till every inmate has had it, and it sometimes takes years to expel it; but in this instance it was so promptly and vigorously met by a salutary regimen, that it was wholly arrested and driven from the institution, before it had extended to half of the children. The nursery was soon entirely vacated, and the services of the nurse and physician no longer needed,—and for more than two years following, no case of death or of sickness took place in the asylum.

Within the last twelve months there have been three deaths in the institution. One of them was an idiot child received some months before from the almshouse. This child was of extremely imperfect organization, and low order of vitality; its bones were soft and flexible, and in all respects it was so miserable a mass of organic existence, when brought to the asylum, that no one expected it would long survive. It however continued to live on for several months, and then died suddenly. The second case was also an idiot child, received from the almshouse in a bad state of disease, and died soon after it was brought to the asylum. The third case was a child which likewise came from the almshouse in an advanced stage of disease, and died very soon after it was received into the asylum. At the same time two or three other children were received from the almshouse greatly out of health, but they have been restored.

We see, therefore, that excepting the scald head brought into the asylum at the very commencement of its new regimen, and the few cases of disease imported from the almshouse within the last year; and excepting the death of the two idiots and one other child, all of which came to the institution with the grasp of death upon them, there has been no case of death nor of disease in the asylum during the last three years, or since the new regimen has been adopted. And therefore it is speaking truth most strictly to say that not a single case of death or of disease

has taken place in the institution within the last three years, from causes existing in the asylum. On the contrary, (to use the language of the Report of the Managers)—“under this system of dietetics, the health of the children has not only been preserved, but those who came to the asylum sickly and weak have become healthy and strong, and greatly increased in activity, in cheerfulness and in happiness.”

It may be said that most of this remarkable improvement is attributable mainly, if not wholly, to the change of situation; but let it be remembered that the old regimen was continued five months after the children were removed to the new house which they have since occupied, and that but little apparent improvement in the health of the children took place before the new regimen was adopted. Up to the very period at which the change was commenced, the nursery was continued; and on the day when they began to adopt the new regimen, there were six children on the sick list. But almost from that very day there began to be a manifest improvement in the health of the children, and in a short time the nursery was wholly vacated, and has ever since been entirely unoccupied, except temporarily, by the few cases of imported disease, already mentioned.

Miss Grimwood and Miss Clark state that since the new regimen has been fully adopted, there has been a remarkable increase of health, strength, activity, vivacity, cheerfulness and contentment, among the children. Indeed, they appear uniformly to be perfectly healthy and happy; and the strength and activity which they exhibit, are truly surprising.

That an airy situation, and a clean and a well ventilated house, are of prime importance to the health of such an institution, no one who understands the subject, can entertain a doubt: but in order to arrive at correct conclusions in matters of this kind, every particular and circumstance should be carefully examined and justly estimated. In the case before us, it is fully evident that the change of situation was neither the sole nor the principal cause of the astonishing improvement in the health of the children.

Nor can we justly consider the substitution of the coarse for the fine bread, nor the abandonment of animal food, the sole cause of such an improvement ; but the improvement resulted from the co-operation of all these causes. It was the effect of a correct regimen throughout, embracing the diet, sleeping, bathing, air, clothing, exercise, and intellectual and moral discipline. And such a regimen, adapted to the physiological laws of human nature, constitutes what is popularly called "the Graham system of living."

Miss Grimwood and Miss Clark also state that the change in the temper and disposition of the children since they have adopted their new regimen, is very great ; they have become less turbulent, and irritable, and peevish, and discontented, and far more manageable, and gentle, and peaceable, and kind to each other ; and this, say the superintendents, is not the result of a want of spirit and energy, but of a healthy state of the whole system—a general serenity—an absence of morbid irritation.

"The effect of the new regimen on the intellectual powers of the children," says Miss Clark, "has been too obvious and too striking to be doubted. There has been a great increase in their mental activity and power :—the quickness and acumen of their perception, the vigor of their apprehension, and the power of their retention, daily astonish me."

This interesting statement of Miss Clark is corroborated by the following equally interesting one from the venerable Judge Woodruff of Connecticut. "On my way to Smyrna (in Greece) in 1828," says the Judge, "I stopped at Syra, where I was detained by contrary winds, about twenty days. I there became acquainted with Dr. Korke, a teacher from Switzerland. He had the charge of the principal school at Syra, containing from 200 to 300 pupils. During my stay at Syra I took great pleasure in visiting Dr. Korke's school, which I did almost every day, at his request. I very soon began to feel and to express astonishment at the remarkable vivacity, sprightliness, and mental activity and power of these children. Their memory was truly surprising. Dr. Korke assured me that he

had never, in any country, met any children equal to these for clearness, sprightliness, activity and power of intellect,—for aptitude to learn and power of retention ; and I can truly say that these Greek children manifested a capacity to learn, which exceeded anything I had ever before, or have since witnessed. Dr. Korke attributed this capacity in his pupils, mainly, to their habits of living, which were extremely simple. Coarse, unbolted, wheat meal bread, with figs, raisins, pomegranates, olives, and other fruit, with water, constituted their diet. Figs and other fruit composed a large proportion of their food ; but I am confident they did not consume an ounce of flesh in a month.”

Miss Grimwood and Miss Clark testify concerning themselves, that they also have experienced very great benefits from the system of living followed in the Asylum, and to which they have now adhered strictly for more than three years and a quarter. “We have always clear heads,” say they, “cheerful spirits, and serene and contented minds ; and can endure twice the fatigue that we could before we adopted our present regimen. Our friends very frequently express their surprise that we are able to perform such arduous duties, without being overcome with excessive fatigue. But we go through the whole round of our duties with vigor and comfort, and enjoy uniform and uninterrupted health.”

Albany, Aug. 24, 1836.

S.

HOW TO ESCAPE CHOLERA.

The following was written originally for the Boston Mercantile Journal.

THE Charleston Board of Health, on the recent appearance of the Cholera in that city, published the following LIST OF SUGGESTIONS to the citizens.—They are with a few exceptions admirable ; such as ought to be observed everywhere else as well as in Charleston ; and whether the cholera is present or not. The same means which are useful to prevent cholera, are useful to prevent all

other diseases, especially epidemics. By the way, the best mode of preventing epidemics is found in a correct physical education. He who begins to live right as soon as he is born, and *continues* to live right, is the only person who does all he can to prevent having the cholera. But now for the list :

1. Whilst the thermometer is high, exposure to currents of cool air should be guarded against.

2. Dwelling houses should be well ventilated. But the change occurring towards daylight, from perfect atmospheric rest, and bodily oppression, to a slight chilling breeze, and subsequent invigoration, suggests the prudence of sleeping with most windows in the chambers closed.

3. The night air and dews should be sedulously avoided. Humidity is deleterious to health.

4. To keep up an equable temperature is indispensable. The chest, belly and loins should be covered with flannel. If it be extremely disagreeable—a cotton jacket may be substituted.

5. The diet should be simple. Moderate eating of digestible food invigorates both mind and body. To gormandize, or partake freely of every savory dish, may delight and tickle the palate, but it is a fruitful source of disease. The best food is least exciting. Meat plainly cooked is not injurious. Soup, beef, white meat, vegetables easily boiled, ripe fruit, and bread and milk, form the best nourishment. High seasoned dishes, pork, salted and smoked meat and fish, shell fish, cabbage, onions, garlic, greasy aliments, unripe fruit, cucumbers, melons, pastry, sweetmeats, peppers, mushrooms, and all rich food and viands, are great stimulants, and should not be indulged in.

Of all drinks water should be preferred. Old Sherry and Madeira are very grateful to the stomach, and in our climate are not injurious, if temperately used by those accustomed to them. Alcoholic drinks excite too much; they should be abandoned and superseded by light French wines. Persons, however, who have been long habituated to these drinks, should not abstain too suddenly. Tea and coffee are not nutritious; they should be used very sparingly, and only by those in whom the habit is confirmed and inveterate.

Bad and sour wines, and all fermenting liquors, should be avoided. Drinks should not be colder than fresh spring water. Sobriety is necessary to health. Drunkards are most liable to cholera.

6. Personal cleanliness should be particularly observed *by frequent ablutions and bathing*.

7. Excessive fatigue of the muscles should be avoided, and temperance in all things observed.

8. Large popular assemblies should be shunned.

9. The time of burial, &c. should be regulated by physicians.

10. If attacked, medical aid should be immediately sought. There is no specific for the cure of cholera.

11. Lastly, the minds of all should be tranquil.

It will be observed that water is regarded as the best drink; that tea and coffee are only admitted in cases where the habit of using them is confirmed and inveterate; that wine is allowed merely to those who are accustomed to it; that the "best food is least EXCITING;" and that drinks should not be taken very cold. There are some persons among us who would do well to make this document, for a few moments, the subject of careful study.

LILY HANDS.

"How I like to see those LILY HANDS;" said a friend of ours, one day, in speaking of his minister. "Don't you think they are exceedingly beautiful? Don't you think they are very becoming?"

Why, they are indeed *pretty*, we replied, and might do very well, according to our ideas of fitness, for a lady. But we do not think they are at all becoming in a gentleman.

"Not in a minister?" he rejoined;—"What a strange taste! Why, I do think they are exceedingly beautiful in a minister."

Do you think, we replied, that Paul had such hands; or the Saviour? How think you the first christians at Antioch would have regarded the lily hand, the taper fingers, the delicate form, the pale face, the graceful attitude, the white gloves, the ring, the bosom pin, and the umbrella, in the men whom they were about to send out as their first missionaries among the heathen?

You may depend upon it, this fondness for a feminine appearance in ministers is a great error. We want, for ministers, men who look hardy, and who really are so. It ill becomes a minister—a soldier of Christ—so to immure himself in his study, or cover himself with gloves and umbrellas and close carriages, as never to come in contact with either the sun or the air, for the mere purpose of giving his face and hands a delicate appearance. We like to see men—ministers not excepted—look brown and sun-burnt, as there is no doubt the hardy Galileans did who followed Christ. We want none of your pale faces. Oh, it is a great mistake to suppose that the minister must be delicate and dough-faced, in order to be acceptable. Peter and the men of Galilee, with their brown faces, and rough hands, and hardy sailor-looking frames, were quite acceptable. Who would not welcome them now? Who would not exchange our white-faced preachers for such men, provided he could get that energy along with them which made them called the sons of thunder?

On our friend's expressing surprise to hear us inveigh, incidentally, against gloves and umbrellas, we continued our remarks nearly as follows:

Happy indeed were it for the community, if white faces were as rare as they now are common. How much more rational are the people of the east, on this point! So much darker are the inhabitants of England, and the adjacent countries, that we appear to them, on their arrival here, like so many walking corpses, rather than like living men. A most excellent exchange would it be, could we barter our pale faces for their brown skins, even those of the fair sex. We have no sympathy with that fastidious delicacy which forbids even a lady to walk

abroad without her parasol, lest she should be sun-burnt. We would have her sun-burnt. She was made to have the sun shine upon her. It is for her health. Without it, she can no more attain to perfect health and vigor, than the top of a potato which is planted in a dark cellar. And it is more than pitiable, it is ridiculous, to suppose that she must avoid the sun. How much more ridiculous to prevent the tender infant—no matter of what sex—from playing in the air, the sun or the rain, lest it should affect its complexion!

We repeat it, for it is an important truth, no person, young or old, male or female, can be excluded—from the cradle to the grave—from the sun and rain, without injury. We are aware that this will be an unpalatable doctrine, but it is true, and must be promulgated. The fear of the sun's rays—this *solarphobia*—must be eradicated from the minds of our mothers and our daughters; and they must either eat their bread in the sweat of their face, or in the strength which exercise, of some sort, in the light of the sun, always gives. Perish from among us these notions about *lily whiteness*; it is as unnatural, in beings made in the image of God, as can be possibly conceived. Let us, while we have the light, walk in the light, even at the risk of being "tanned." Let us be children of the day—the day, I mean, just as God has made it—with its storms and its sunshine.

ESTABLISHED PRINCIPLES.

It is sometimes said that health is important, but that there are no established principles concerning it;—all is "afloat." The wisest men, it is said, disagree in the plainest and very first principles; and who shall decide, when doctors differ? Now we say that there are established principles—principles as well established as those of mathematics; and we have resolved to prepare a list or

catalogue of them. We have begun it below, and shall extend it hereafter, as we have time and opportunity.

DRESS.

1. Our clothing should be always loose.
2. There should be as few ligatures as possible on the body or limbs.
3. While in good health, we should always dress as coolly as possible, provided we do not feel uncomfortable.
4. All clothing should be changed occasionally, and our linen frequently.
5. The head dress should be as cool as possible.

EXERCISE.

1. Health requires that all the muscular parts of the body should be exercised.
2. Violence and excess of muscular action are injurious.
3. Sitting long in a crouched position is hurtful.

PURE AIR AND CLEANLINESS.

1. The air of our rooms should be kept pure.
2. A dry atmosphere is better than a damp one.
3. Our skins should be kept clean at all times and seasons.
4. We should neither sit nor sleep in currents of cold air.

SLEEP AND REST.

1. Night is better for sleep than day.
2. We should retire early and rise early.
3. The stomach requires its seasons of entire rest.
4. The mind should be kept always tranquil.

FOOD.

1. The best food is least exciting.
2. We should select the best food, if possible.
3. We should eat slow.
4. Our food should be well masticated.
5. Hot food is less healthful than that which is only moderately warm.

6. We should seldom eat without an appetite.
7. The fewer the kinds of food at the same meal, provided it be good, the better.
8. That is not always the best food which contains the most nutriment.
9. We require most food when we have the most proper amount of bodily and mental exercise.
10. Heavy suppers, especially when we are fatigued, should be avoided.

DRINK.

1. We should use the best drink, when we can get it.
2. The best drink is pure water.
3. Very hot and very cold drinks should be avoided.
4. We should never drink to cool ourselves.
5. We should never drink merely to wash down our food.

MISCELLANEOUS DIRECTIONS.

1. The earlier we form good bodily habits, the better.
2. Neither the reddest nor the palest faces indicate the best health.
3. Colds lay a foundation for other diseases, and might, if more pains were taken, be avoided.
4. Prevention is better than cure.
5. Medicine, unless indispensably necessary, is always injurious.
6. If you consult a physician at all, do it seasonably.

NOTE.—We do not mean to say that none of these rules or positions have ever been controverted. We *may* hear of their being inapplicable to certain constitutions and circumstances. Burgh, in his *Dignity of Human Nature*, tells us that it has been gravely contended that two and two, in certain circumstances, make five. We maintain, and feel competent to prove it, that to the *HEALTHY*, all the foregoing rules are as true, in all circumstances, as that two and two make four. When the latter position can be successfully controverted, then may we hope to undermine the former.

CATALOGUE OF DISEASES.

DR. WHITLAW, an English physician, suggests the importance of a new classification of diseases, founded on the causes which produce, or are supposed to produce them. He gives the following as a specimen of his proposed classification :

The Mercurial Disease	The Fox Glove Disease
The Belladonna “	The Fool's Parsley “
The Stramonium “	The Nux Vomica “
The Tobacco “	The Quassia “
The Cicuta “	The Opium “
The Buttercup “	The Hellebore “
The Colchicum “	The Mineral Acid “
The Colocynth “	The Acrid “
The Pork or Hog “	The Putrid “
The Vinegar “	

Dr. W. does not, of course, pretend that the foregoing is a complete catalogue of human diseases. All he proposes, probably, is a specimen. May we not be permitted to extend his list a little, and add the following ? Perhaps we may add more hereafter.

The Brandy Disease	The Paregoric Disease
The Rum “	The Mustard “
The Whiskey “	The Pepper “
The Bitters “	The Pickle “
The Toddy “	The Gravy “
The Milk Punch “	The Spice “
The Wine “	The Pie Crust “
The Cider “	The Hot Bread “
The Ale “	The Green Apple “
The Coffee “	The Cheese “
The Tea “	The Confectionary “
The Beer “	The Mince Pie “
The Laudanum “	

TEN HOURS' LABOR A DAY.

WE have been again and again asked, "What do you think of the ten hour system?" to which we have been obliged to say that we had formed no definite opinions on the subject, regarded as a system. We believe that ten hours of manual labor a day is enough for any person in the world, however vigorous, or however necessitous. His physical nature claims something like ten more, for eating, drinking and sleeping; and *four* only for the improvement of his social and moral nature is rather a small proportion, after all, if the mind and soul are worth as much as men pretend to think they are. Alfred, sometimes called Alfred the Great, made a better division of his time.

If these principles should stamp us with the opprobrious epithet of a "ten hour" man, be it so. Nor will any reproaches be likely to change us. And in so far as the ten hour men in general adopt views like the following, copied from the "Mechanics', Operatives' and Laborers' Advocate," of Norwich, Conn., we shall certainly wish them success. No views could be in more exact accordance with our own.

"Our object in this work is not to promote the interests of any class of the community by destroying or even depressing others. We aim chiefly, it is true, to promote the moral and physical welfare of those who are usually denominated the laboring or producing classes, but in a manner which shall, at the same time, promote the happiness, and ultimately, even the interests of their employers. We have no idea of *levelling downwards*;—our only hope of permanent good in the work of diminishing human inequality, or lessening human ignorance and misery, is by *levelling upwards*. We hold it to be a self-evident truth, that every arrangement which demands the *constant* employment of any class of mankind, from early on Monday morning till late on Saturday evening, with scarcely a moment's remission, (unless in case of actual sickness,)

except for meals and rest, is alike prejudicial to all classes of society, since it leaves the laborer no better prepared than before, for the discharge of the duties he owes to his fellow men, and unfits him even for the religious duties of the Sabbath. To him who has no time for intellectual, social or moral improvement except the Sabbath, even that Sabbath is of little utility. And can it be for the general interest—rather must it not jeopardize *every* interest—to confine a large class of active human beings to a course which keeps them in the state of mere servants or slaves; or if it improves them at all, only makes them the better *animals*.

“ We believe it to be for the interest of every employer, to permit, nay to require of the laborer several hours of leisure each day, for amusement, relaxation or study. We believe it is not for the ultimate interest of either the employer or employed, to demand of the latter more than ten hours of active employment a day; and that it is alike injurious to employ, during the whole day, children of either sex under the age of fifteen or sixteen years. We believe, moreover, that the custom of making each Saturday afternoon a sort of holiday, would greatly add to the happiness, and especially increase the moral and religious interests of every portion of a civilized community. It is also the imperative duty of all who are any way concerned in the management or oversight of mills, factories or other buildings, where large numbers of individuals are collected together, to make every possible provision not only for the preservation, but for the improvement of the health of all; and to this end, to remove not only every local but every general and remote cause of disease which may come under their notice.

“ On the other hand, and on the part of the laborer, we maintain that it is for his interest, his profit and his pleasure, to spend every portion of the remaining hours in healthy and innocent recreation, or light manual labor in the open air, and especially in improving the minds and hearts of himself, his family and his neighbors: and that he is especially bound to secure, at almost all hazards, the right physical and moral education of his children. We

deprecate the idea of a rational and immortal being spending his precious moments in places where he is exposed to temptation, and liable to become a gambler, a glutton, a tippler, or a debauchee.

"We shall maintain, and shall never cease to maintain, that while no more than ten hours of physical labor ought either to be demanded or performed, the remaining hours of each day, together with those of the Sabbath—aided in the case of our children by the day school and the Sunday school—are sufficient, if rightly improved, to give to all mankind the means of social, intellectual and moral improvement and progress."

"A LITTLE WON'T HURT YOU."

I AM a constant reader of the Reformer, and, I hope, a sincere inquirer after the truth. I find, upon looking back a few months, that many positions which I once regarded as unfounded, or at least of but partial application, I am now compelled to receive as established principles; and many practices which I once scouted as an empiric's dreams, I now adopt as essential to health. I find that notions which I brought with me from the cradle, and which had become to me almost as sacred as the lessons of maternal piety, are founded only in ignorance and prejudice; and as an honest man, and a humble lover of truth, I must abandon them.

I cannot forget that there is danger of running to extremes; that in the fear of adhering to old customs because they are old, I may adopt new notions because they are new. I therefore request the privilege of occasionally asking a few questions, and of making a few suggestions, (not "dictatorial,") with the hope that yourself or some of your correspondents will apply to them the test of an enlightened experience, or of scientific investigation.

Among prevalent erroneous notions, this, it has occurred to me, may be classed, that it is not the use of a thing,

but the abuse of a thing which is hurtful. In relation to some things this *may* be true ; but is it true to the extent to which it is applied ? For instance ; the tobacco smoker says—" Oh, I know I smoke too much ; if I could only smoke moderately, it would not hurt me." Thus also the tea or coffee drinker says—" Very strong tea or coffee is injurious ; but I know that a cup or two of weak coffee does me good ; and I do n't believe it will hurt anybody that do n't carry it to excess." Now is it so, Mr. Editor ? If weak coffee is good for a person in health, is not strong coffee better ? And if strong tea or coffee is hurtful, is not weak tea or coffee hurtful in the same proportion ? If, for instance, three cups of coffee, containing the strength of four ounces of coffee, is hurtful, will not a cup containing one twelfth part of that strength produce one twelfth part as great injury ?

If these things are so, does it not follow that the common notion, "a little won't hurt you," is a dangerous, often a fatal error ? And will not the same principle apply to many common articles of food and drink ? If, for instance, the eating of much fat is injurious, does it not necessarily follow, that the smallest quantity is injurious in the same proportion ? No one doubts that it would be hurtful to drink a pint of melted fat ; is it not proportionally injurious to take a gill or tea-spoonful ? And although I grant it may make a little difference whether it be taken clear or mixed with solid food, does not the stomach detect its presence, and treat it as an enemy, whether it be mixed with boiled egg and milk, and called custard, or with baked flour and water, and called short cake, or with the animal fibre, and called pork ?

It seems to me that this is a safe principle ; that an article of food or drink, which is in itself good, that is, adapted to promote the best possible interest of a person in health, is good taken in any quantity which a healthy appetite demands ; (for, is it not true that a perfectly pure, unperverted, unstimulated appetite, will never crave more food than the system requires ?) And, on the other hand, that an article not good, taken in any such quantity, is not good taken in any quantity ; that is, that article is not

so favorable to health as another. In other words, a person in health—(let it be observed, I do not speak of a diseased state of the system)—if he wishes to preserve the best possible health, will not take even small quantities of food or drink of which he cannot make a whole meal, or repeated meals, without injury.

I am aware that these views will meet with little favor in a community like ours; but I only ask, are they not correct? I throw them out merely as hints, hoping that they may call forth the efforts of abler pens upon a subject of such vast importance to human happiness. Let the light of truth shine as well upon the conclusions of a long undisputed, though it may be fallacious experience, as upon the speculations of a visionary empiricism.

F. W. B.

RECORD OF REFORM.

DOING EVIL THAT GOOD MAY COME.—Whether this article belongs to a Record of Moral Reform or not, we venture to insert it. Our readers, we know, will be convinced that reform somewhere is necessary.

In the Common School Assistant for September last, published, as our readers know, in Albany, and edited by Mr. J. Orville Taylor, is an article headed "A Sleeping School," which, though not editorial, seems to have been partly endorsed by the editor, but which we regret to see; for we are afraid it is a misrepresentation.

The writer, whose signature is S. M., states that he lately visited the district school to which he sends his own children, where he found the air so bad that part of the pupils were asleep, and the teacher and the rest of the pupils getting sleepy; and on sitting down to converse with the teacher, found himself also becoming drowsy. The windows, it appears, were closed, on the ground that the pupils would look out at them if they were not.—Thus far, the account is within the limits of possibility.

But now for the sequel. The writer says that though he was able to keep awake by walking the room, and talking louder and faster to the teacher, he saw the children closing their eyes, and dropping their heads on the benches. But we will quote a few sentences from his own story.

“At last I kept still, for I saw they were all asleep, and the teacher was also nodding, with his eyes almost shut. I took my hat, and said good day; but no one said good day back, for I left them asleep. Sir, this is what I really saw; and it is what any one will see, who will go into our schools during a hot day in summer.”

This is too much. S. M., it seems, found it impossible to resist the tendency to sleep, without loud and rapid talking, and walking the room; and yet, a moment afterward, he could keep still and make observations, though the air was all the while growing worse. Does any one believe this story? Does any one believe, moreover, that he made such a visit as he describes, and then left the whole school, and the teacher among the rest, asleep? We are authorized to believe his own children were there;—would he have left them in that condition? When could he expect them to awake? When would they, according to the common course and nature of things, have awaked? Not surely before doomsday.

But admitting we could swallow all this contradictory stuff—allowing the writer to be a man of verity so far—what shall we say of his slander on all our summer schools? Does he expect to gain credence when he represents *all our summer district schools* to be every day like the one he has described? We say again, this is too much.

Our common schools are bad enough, we know very well; for we are well acquainted with their real condition. The pupils, during summer, and winter too, are stupid enough, and the air is bad enough. The truth respecting them seems to us sufficiently shocking to awaken people; but if not, we have no faith in efforts to awaken them by misrepresentation. We do not believe in doing evil that good may come.

SOCIETY OF PEACE-MAKERS.—Dr. Cotton Mather, about 150 years ago, established a Society of Peace-makers at Boston, whose professed business it was to settle differences and prevent lawsuits. We should like to know the history of that society for the last century and a half.

Gilbert West said the appellation of *peace-maker* was infinitely more honorable than that of pastor, bishop, archbishop, cardinal or pope; and a wiser than he said, "Blessed are the peace-makers"—blessed here, and blessed hereafter.

How painful the apathy of mankind on the subject of peace-making! Nothing can better illustrate this than the present state of the christian church. Though every separate church ought to be essentially a society of peace-makers, yet is it not true that, so far from promoting peace among their neighbors, a great number of them do not keep up harmony among themselves? How many bite and devour! How many give occasion to the reproach so often thrown upon us—"See how these christians love one another!" Nor is it the least painful circumstance connected with this subject, that many who profess to be christians are opposed to peace societies. They will not join them themselves, nor, if they can help it, allow others to do so. My brethren, ought these things so to be? Do they look much like moral reform?

HOSPITALS FOR IDIOTS.—Dean Swift left the bulk of his fortune, amounting to 11,000 pounds sterling, to erect and endow a hospital for idiots and lunatics! We know not whether the money was appropriated according to the wishes of the donor.

Hospitals for lunatics are not so rare, at the present day, as hospitals for idiots. The latter class of men—for *men*, and even *brethren*, they still are—is most shamefully overlooked. We seem to take it for granted that they are incapable of improvement; and though they are sometimes our near relatives, we turn them over, without any apparent remorse, to the same fate with our domestic cattle. We *fodder* them—but so we do our cattle.

Have they not immortal minds and hearts? And if but little can be done for them, are we not bound, as christians—yea, as *men*—to do that little?

DISEASED CHICKENS.—We have found in an agricultural paper—we have forgotten its name—the following article, headed—"To fatten fowls or chickens in four or five days: "

"Set rice over the fire with skimmed milk—only as much as will serve one day. Let it boil till the rice is quite swelled out. You may add a tea-spoonful or two of sugar; but it will do well without. Feed them three times a day, in common pans, giving them only as much as will quite fill them at once. When you

boil fresh, let the pans be set in water, that no sourness may be conveyed to the fowls, as that prevents them from fattening. Give them clean water, or the milk of rice, to drink; but the less wet the latter is when perfectly soaked, the better. By this method, the flesh will have a clear whiteness which no other food gives; and when it is considered how far a pound of rice will go, and how much time is saved by this mode, it will be found to be cheap."

Now we care not how pure or excellent the food may be which is employed in fattening animals in *four or five days*; the process is, in reality, neither more nor less than rendering them diseased; and every one who understands anything of the laws of health and disease ought to know it. We have seen geese fattened in *seven, eight or nine days*; but it is certain that, in all such cases, they have diseased livers at the end of this period. We regard the process of fattening all animals, as *generally conducted*, as best designated by another term, viz., "making them sick." If people must eat flesh, let them eat *healthy* animals. It is strange that we should be unwilling to eat an animal, till we have kindled a fever in it, or induced a liver complaint.

YOUNG MEN'S MORAL REFORM SOCIETY IN ROCHESTER.—This society, which aims at the suppression of LICENTIOUSNESS, has begun with favorable prospects. Such associations, if the members are men of the right stamp, may do great good in every city.

STEUBENVILLE (OHIO) FEMALE SEMINARY.—In this flourishing seminary, embracing nearly 200 female pupils, the study of human physiology is systematically pursued, and thus far, with the most encouraging prospects. We do hope that the example will be followed by every female seminary in the United States.

MADAME CELESTE has been engaged, it is said, to dance three nights in New York for \$3000. And yet there is good reason for believing that no decent person can witness her feats of dancing without blushing, though thousands of both sexes scruple not to attend. How long are Madame Celeste, and "Adam and Eve," and other naked figures, to be exhibited in a christian community?

It is estimated that the theatres in New York will, during the current year, be the cause, by the bad air, &c. of at least one thousand deaths.

TOTAL ABSTINENCE.—Total abstinence societies are springing up all over the state of New York, favored, as it appears, by such men as Delavan, James and Smith. The total abstinence ground is the only ground to be taken in this cause. "Here is firm footing—here is solid rock; all, all is sea besides."

DEATH OF MOSES BROWN.—This venerable patriarch, in his early life, was feeble. But finding himself compelled to obey the laws of health, or descend quickly, as the penalty, to the grave, he entered upon a rational course of living, which prolonged his valuable existence to almost a hundred years. Even then he died of an acute disease—the *cholera morbus*. Could he have avoided the exciting cause of this, he might in all probability have gone on many years longer.

PREVENTION ON PAUPERISM.—A society by this name exists in Boston, of which Samuel A. Eliot, Esq. is president. The object of this society is to offer assistance to the needy, of such a kind and in such a way as shall not tend to depress them, and render them more dependant than they were before. This can, in general, be best effected by giving them labor and advice, and encouraging industry, economy and self-dependence. The society has employed as its agent Mr. Artemas Simonds, the late superintendent of the House of Industry, at South Boston. The plan and principles of the society are excellent; and we fully concur in the opinion expressed in a resolution offered at one of its late meetings, by Moses Grant, Esq., the substance of which was, that in no way can pauperism be so effectually prevented as in attending to the wants and condition of the rising generation, especially those who reside in or about our cities.—We wish societies could be formed on a similar plan, and with similar objects, in all our cities. We have increased pauperism by our misguided efforts to prevent it quite too long already; it is high time a wiser course were adopted.

LIBRARY OF HEALTH.

FAMILY REFORMATION,

OR DOSING AND DRUGGING PREVENTED.

WE have seen, in our last number, that in view of the evils of dosing and drugging, the whole world—the whole of what we call the civilized world, at least—seems involved, as by common consent, in sin and suffering. We believe it was there fully and satisfactorily shown, that, taking our definition of a medicine to be the correct one, there is not a physically just person among us;—not one who, though in health, does not, from the first to the grave, daily impair, permanently, his health, and shorten his life, by the use of medicinal substances.

The grand question is, how this waste of human life and health can be stopped. How shall a world of intelligent beings be induced to cease the work of self-destruction, and come under the full influence of the law of love? How shall we learn to discontinue the business of killing, and begin the work of saving—of saving our own lives and the lives of those around us?

The community, as a general fact, having, by their daily dosing, so prepared their systems that, like a magazine that is ready to be blown up the moment a spark is communicated to the train of combustible material which is prepared for the purpose, disease is ready to burst out

in full violence the moment any strong exciting cause operates upon them, there is, we think, no safer way than to commit themselves, on the accession of disease, to the best physician they can find.

What! take his poisons? some will say. Yes, take his poisons, if he chooses to give poisons. Your continual drugging, all your life long, has already poisoned you; and your disease is, for the most part, the boiling over of that poison. You have dosed yourself or have been dosed by others, either occasionally or daily, into disease. If you have not done this with calomel, or emetic tartar, or opium, or tobacco, or spirits, or fermented or narcotic drinks of any sort—nor even with coffee or tea—yet you have done so with vinegar, mustard, pepper, pearlash, spices, salt, &c. For even salt, in excess—and it is generally used thus—operates medicinally, as every one may know who has attended, in the least, to its effects.* With some of these, then, we say, you have dosed or been dosed, almost from the first day you saw the light to the present hour; and you must be a sort of standing miracle, if your whole mass of solids and fluids is not contaminated—nay, poisoned thereby.

When, therefore, you are so nearly destroyed by disease that you can go no farther, or rather when the diseased action which has existed within you almost ever since you were born has taken a new turn, and you are ignorant what to do, it is desirable you should ask counsel. In such cases, it is the part of true wisdom to call a physician; one in whom you can place the most entire confidence.

This confidence cannot, it is presumed, be placed in one who knows nothing of the human constitution, one

* Who does not know the tendency of highly salted food to aggravate or even to produce diseases of the skin, &c.?

who has neither been trained to his employment, nor made it a subject of daily and yearly study. You would not employ a pilot to conduct your vessel safely into port, who, you did not believe, understood his business and the situation of the coast and harbor.

But employ whom you may—for it is not our business to dictate in this matter—we repeat it, follow his directions implicitly. No sensible master of a vessel, when he has secured the services of a pilot, attempts at all to interfere. Indeed it would not answer to do so. The pilot would not suffer it; and the customs or laws of the community would bear him out in his refusal. This is the dictate of common sense, too, as well as law. Why then should we not follow, just as implicitly and unconditionally, him who undertakes to pilot us in disease? Is death less dreadful than shipwreck?

Talk not—we repeat it once more—of the physician's poisons. You have but a choice of evils at best—a choice of poisons. It is but to choose whether you will submit to the effects of past poisoning, and which seem just now to be running you down with increased velocity, or to the efforts of a skilful individual, who has spent his life in the study and practice of the art of managing poisoned and shattered human frames.

We have already spoken of the unworthy notions everywhere current, in regard to the moral integrity of physicians. The truth is, mankind have both too much and too little confidence in the medical art. They have too much confidence in it as a matter of mystery and charm and conjuration, and too little confidence in it as a matter of profound study and truly scientific investigation.

To aid the skilful physician in obviating the terrible evils with which we seem threatened, by a storm which has been gathering from our errors all our life long, good

nurses or attendants are needed. It is indeed of little consequence to call for medical aid, if we have no confidence in it; but such services are of still less importance, if in addition to all this, our attendants are without confidence, or are disposed to use their own judgment. We have before spoken on this subject, but we must again insist on it; there can be no safety but in submitting wholly to the pilot. How many persons soever there may be on board ship, or at hand, there must be but one head—one master;—and all the rest, however wise or skilful, must be either hands or passengers.

It is painful, exceedingly so, to a medical man who is trying to do his duty, amid ten thousand difficulties, to find those difficulties increased by a want of co-operation, on the part of those who are expected to execute his commands during his absence. If, horror-struck at the sight of a little cream of tartar, or magnesia, and fancying it to be calomel, the attendant throws it into the fire; or even if it be what he supposes it to be, and he burns it or throws it out the window, how is anything but death to be expected? Many a nurse and attendant—not to say many a son and daughter, and brother and sister, and wife and husband—have in this way as effectually destroyed that life which was often dearer to them than their own, as if they had given a dose of arsenic, or applied the axe, the razor or the halter. No matter whether the medicine is or is not poisonous; no matter, we mean, so far as we are concerned, as attendants. It is our business to execute, to the fullest extent of our power, the plans of the medical pilot, or else at once dismiss him, and take the responsibility upon our own shoulders.

But to get well when we are sick, and to get well in the best possible manner, go but a small way towards removing from our land the evils of drugging. These

are indeed important items, and in our view must be faithfully and thoroughly *done*; but there is a still greater work which must not be left undone.

This is, to seek out the causes, remote and near, of our illness; and if our drugging has had anything to do with it, seek to know the course by which its further evil consequences may be averted. In doing this, too, no man is better qualified to aid us than the well educated, common sense physician. Why then do not mankind avail themselves oftener of his services?

First, because they are not trained to think—especially to study the relation of cause and effect. Secondly, because they are not trained to realize that diseases are the effects of any causes which can or could be found out. They may suppose them to be the result of chance; they may suppose them to be inflicted by the immediate agency of a benevolent or a malevolent spirit. In most cases, however, they have not thought at all on the subject. Thirdly, because they do not care much about the future. It is sufficient for their purpose, if they have got out of danger, and can go on again. What do they want of the doctor till they are sick again? Fourthly, they have no confidence in him as an adviser in regard to health. Here every one, as a general fact, trusts to his own experience.

Some, who have become partially awake to the importance of the subject, ask us why the physician does not volunteer his advice on these occasions. If, say they, he sees that an individual, by the daily use of cider, by almost constantly inhaling bad air, either in his sleeping room, in his parlor, or in his shop, or by an excessive use of condiments or unhealthy food, is exposing himself to the influence of every coming epidemic, why does he not tell him so, and persuade him to cease the work of self-

destruction ; and if he can do no more, at least preserve the things which remain, but are ready to perish ?

But what good purpose would it answer, if a physician were to do this ? It is of little service to attempt to instruct mankind, when they feel no desire for instruction. Few people will hearken to such instruction at all ; and of the few who would hear it, very few would attach importance enough to it to make them remember it. They that are whole need not a physician, they will perhaps say ; quoting the language of Holy Writ. So long as this feeling exists, what good will it do to attempt to instruct them ? We might almost as well—using Scripture language once more—cast our pearls before swine.

Is it said that physicians ought to remove the darkness and ignorance of the world on this subject ? So, at first, it would seem. And yet, for even this they are not ready, in any considerable numbers. The mass of mankind, on this subject at least, evidently *love* darkness rather than light. Physicians cannot get their ears, if they would.

There is another difficulty, we acknowledge. Physicians, as a general rule, are not well prepared to instruct mankind in the laws of health and life, were the latter disposed to listen. What knowledge they have of anatomy, physiology and hygiene, is for the most part superficial. It was mostly acquired by rote, as modern school boys acquire their wonderful knowledge of grammar, geography, history, &c., without understanding it. Nor will they be likely to acquire it more thoroughly, till there is a demand for it in their daily practice. When the public come to see its usefulness and necessity, and to look to their physicians, as well as elsewhere, for light and assistance, and when they are ready to pay them for these as liberally as for other services, then, and

not till then, will physicians be prepared to furnish the necessary instruction. Let a commodity be demanded in the market, and there is little doubt that the market will soon be found to furnish it.

Recovery from a fit of sickness is a season peculiarly favorable to reformation in our habits, especially in regard to dosing and drugging. For this reason, were there no other, it is peculiarly desirable that something should be done by the physician, at this time, in the way of affording assistance. At this precious season, our appetite is usually keen, our reason comparatively unclouded, our moral perceptions vivid, and all things comparatively bright and happy. In no other circumstances, perhaps, shall we experience so little opposition from depraved feelings, habits, associations and tastes, in our attempts to return to nature's simplicity.

So difficult, however, is reformation—especially a reformation of physical habits—even to those who are but little beyond life's threshold ; so hard is it to eradicate our taste for medicinal substances, and our daily if not hourly reliance on some one or more of them, except perhaps when aroused to reflection by suffering, or during the leisure of convalescence, that there is great reason to fear but little will ever be done in this way. Multitudes there indeed are who, if convinced of its necessity, would not attempt anything, the task seems so formidable.

We cannot indeed approve of such neglect to do what we know ought to be done, though fully aware that it is perfectly natural to us. There is no person who may not and ought not, in view of its necessity, to break at once from his slavery to drugs and medicines. Not perhaps from all at one time, but one by one till the "coast is cleared." First the opium, perhaps ; next the tobacco ; next the occasional emetics or cathartics ; next the spirituous liquors ; then, one by one, the fermented

drinks, the warm narcotic slops, the pepper, the mustard, the vinegar, &c.

If it is asked whether each of these, in its turn, should be entirely abandoned at once, our reply is, that we suppose it rather more easy, and perhaps a little more safe, to leave off any of these things by degrees, that is, by lessening the dose gradually from day to day, till it is reduced to nothing. But as there are few in the world who have the moral courage to break off in this way, and hardly any who would probably succeed in such an attempt, we deem it best to break from each separate drug or medicine at once. In this way we are sure of ourselves; in other circumstances, our emancipation is more than doubtful.

Nor is the danger to the constitution, in breaking suddenly from the use of substances which do not *make blood*, very considerable, after all. We have known the slaves of spirits and tobacco break off suddenly, at a very advanced age, with no perceptible injury to their constitutions. And what has been done, can be done again.

We insist on the one or the other. Dosing and drugging must be stopped; if not for our own sakes, at least for the sakes of those around us, and those who are to come after us. Mankind will deteriorate till this is done, other things remaining the same; and the least which, as rational beings and as christians, we can do, is to see that the evil extends no farther. If we will not break from the use, say of cider or coffee, suddenly—which, by the way, is the easiest course, after all—let us at least try what can be done gradually. Let us every day use a little less of our medicinal beverage, even if it be but one teaspoon full less.

We repeat the sentiment, then, there is great reason to fear that but little will ever be done for mankind, either in the way of mere correction, or by directing our efforts

to the generations already on the stage of action. So thoroughly imbued has society become with the drugging system, that if our hopes of its renovation were restricted to the little which can be done for those whose habits are already formed, we confess we should be almost ready to consider our case, in this respect, desperate.

But when we consider what may be done for the generations yet to rise, our courage revives, and we still indulge strong hopes of our race.

Let those who are convinced of the importance of diffusing, through our whole community, such a knowledge of the human organs, functions and relations, as shall enable them to do something for the children whom God may place in their hands to be educated—let all such persons, we say, according to their means, enter with their whole souls, into this field of labor. Let them at least form associations for the purpose of acquiring and diffusing knowledge of this kind; such, for example, as those which have, within a few years past, been formed in Boston, New York, Providence, and elsewhere. Let mothers, especially, engage in this work. Let them seek to train up their families in the way they should go, and without a reliance on medicine. If they will not cease to drug themselves, let them at least cease to drug their children.

When a few more associations of this kind shall have been formed, and a knowledge of their existence and object begins to spread abroad, the most beneficial results will inevitably follow. Anatomy and hygiene will be introduced not only to the attention of families, but to that of schools. Indeed, this very result has already begun to appear. The University of New York has recently appointed a professor of Hygiene, in the medical school connected with it; and many an academy, high school, and select school, has begun to recognize, in the

arrangement of its course of instruction, the importance of studying ourselves.

How strange it is that this knowledge of ourselves should have been so long overlooked! How strange that everything else should be investigated—the earth, the air, the heavens—while we are strangers to our own homes, the very “houses we live in!” How strange that all the objects around us, far and near, in land and in water, mineral, vegetable and animal, should be studied at our schools, and yet ourselves, our very selves, the importance of a knowledge of which has been admitted time immemorial, remain unstudied and wholly neglected!

Let this great subject, the correct education of man—his physical, as well as his intellectual and moral part—once take strong hold on the public feeling, and let parents—especially mothers—and teachers, become thoroughly awake to their duty, and the emancipation of the world from the daily use of drugs and medicines may be considered as half accomplished.

When mothers understand what their duty is—christian mothers, we mean, for let us here say we have little hope of much permanent progress in any work of reform, except in so far as it is carried forward by the disciples of Christ—when conscientious mothers once get hold of this matter as it is desirable they should, then will the wheels of improvement go forward.

A child will no sooner begin its existence, than the effort will begin, to make it what it should be. If the fountains whence it draws its first nutriment cannot be preserved wholly uncontaminated, they will at least be comparatively so.

The nursing mother will not construe that law of nature which gives her an unusually keen appetite, into a license to devour twice or three times as great a *quantity* of food as usual. She will know, perhaps, that it is the

opinion of the wisest medical men, that she needs very little more nourishment than at other times. She will consider her keen appetite as a substitute for spices and condiments; and in mercy to her child, if she has no mercy on herself, she will use her food and drink as much as possible without the intermixture of medicinal substances, and without any other liquids than Nature's own beverage, pure water.

She will not only avoid mixing drugs with her food or drink, as much as she can, but she will endeavor so to regulate her own habits and the treatment of her child, that no castor oil, Godfrey's cordial, catnip or peppermint tea, elixir paregoric, or any other article from the shop of the apothecary, will be necessary for either. This is a result easily enough accomplished by any healthy intelligent mother of a healthy child.

The change in the child's condition, from a mode of existence in which its solids and fluids are built up from substances not only more highly animalized, but also more impregnated, if we may so say, with medicated substances—as is more generally the fact—to one in which, if the indications of Nature are followed as above, the food is milder, cooler, less animalized, and more free from foreign poisons, will not, moreover, be misconstrued into a license to the abuse of giving other food before it is needed, or even before it can be disposed of without acting as a foreign body in the stomach, and producing all the irritation which such a body produces.

The first food which is given, in addition to the milk of the mother, will be mild and bland, like it. It will be cows' milk and water, in equal proportions, at first, and a little sweetened with loaf sugar, so as to make it, in properties and taste, as much like its other food as possible. After a few days, the proportion of cows' milk will be somewhat increased, and the sugar diminished.

From this the child will pass gradually, after some months, to other food ; but instead of using seasonings, which are of course neither more nor less than medicinal substances, such food should be perfectly simple, and without the intermixture of any foreign substance whatever. Strange indeed would it be, if after having been gradually and for a long time trained to the use of food less and less heating, and affected less and less by condiments—and this is in accordance with the opinion of the best writers on this subject—it should suddenly need that proportion of salt, pepper, spice, pearlash, &c. which is usually allowed it ! And it were not only strange that it should be so, but wholly unnatural.

The only exception to the strictest interpretation of the foregoing remarks is in favor of salt. In regard to the use of this substance, if we take the ground that it is useful to us because it is so to some of our domestic animals—and this is the only argument which is valid in its support—and if we practice according to this belief, the child may require this form of medicine a few times in a month, or at most once or twice a week. This is the only dosing or drugging which is at all admissible at any age, but especially in infancy and childhood—we mean so long as the individual is healthy.

But what is to be done if the child is not healthy ? we probably shall be asked. Is not medicine needed then ? Especially what is to be done if the child is taken sick very suddenly, or the physician is at a distance, or engaged ? Is the mother to administer ?

We will answer these questions, premising, however, that if the foregoing directions in regard to the general treatment of the mother and child were followed out strictly, little if any disease would ever arise ; and consequently very little medicine would be demanded. Indeed, we do not believe that if all the laws of health

were strictly obeyed by both parents from the time of entering into the matrimonial state, any inherited predisposition to disease would be apt to rise so far as to require medical treatment from the parents or anybody else.

We do not know that it may not be necessary for those individuals who live remote from any physician, to keep, in their houses, a very few medicines, as a little laudanum or paregoric, and a little ipecac or some more active emetic. But the temptation is so great, to give medicine where it might be dispensed with, that we should by all means keep as few kinds as possible. And if it must be kept, as a last resort where we cannot do better, why it may, of course, as a last resort, (but only as such) be used; and that, too, by the mother.

We shall be permitted, in this place, to give a single example of the benefits we have actually seen from abandoning the dosing and drugging system. It is only one case among the many we have known, but it is a striking one.

Mr. W. H. was, twelve years ago, an apothecary. Though bred to active exercise in the open air, he had been *in the shop* from sixteen to twenty-five, and had contracted the habit, as most persons in apothecaries' shops do, of frequently dosing; and what is equally common, the more he relied on medicine, the more frequent was its apparent necessity. He was pale, inefficient, without appetite, costive, and in one word, sickly.

His wife, for he had been married a few years, was in a worse condition than himself. Though naturally healthy enough till fourteen, she had from that time, or about that time, been immured in school rooms and shops, and been under the influence, almost perpetually, either of a dosing mother or a physician. She was seldom wholly confined to her bed, but she was always feeble, exceedingly so. Most people thought her whimsical; she seemed,

as they said, so fleshy and healthy. Nevertheless, she was a sick woman. She had no appetite, and no regular habits. She was pale and feeble, and suffered much from languor and pain. Her closet, moreover, had become so filled with phials, and gallipots, and papers, and powders, that it was almost difficult to tell which kept the best assortment, her husband or she ; and she was daily and almost hourly dosing.

About this time, they received a young physician into their family as a boarder, where he remained a year or two. During this time, he succeeded in partially breaking up the habit of daily dosing, in both the husband and the wife ; and the good effect on their health, as the consequence, was considerable. Still, the effects of many years of dosing and drugging remained behind. All their children, one after another, were either stillborn or died early.

Time and circumstances at length separated the young physician from this family for many years. A few months since, having occasion to pass through the neighborhood, and to stop for dinner at a public house, only a few rods from the door of his old friends, the apothecary and his family, he called to see them. He was surprised to meet, instead of the pale, pimpled apothecary, a man of firm step, healthy countenance, and strong muscles. You seem greatly improved in health, he exclaimed. I should hardly have known you. " Oh yes," said he, with emotion, " I just begin to know what it is to enjoy life. I can *eat* now, and I can *work*."

The change in Mrs. H. was equally surprising. She came forward from her wash tub, and though thin, much more so than formerly, she was evidently healthy and vigorous. Her countenance, like that of the husband, was indeed a little *browned*, but it was firm, and so *was* her voice.

Presently up ran two or three little children. Whose are these? exclaimed the physician. "They are ours," was the reply. Are they healthy? "Quite so," said the parents. But what is the cause of all this change, said the physician.

Their story is soon told. They had long ago abandoned the apothecary's shop, and the practice of daily dosing. And, more recently, they had failed in business, and become quite impoverished. The husband had been driven to hard labor in the open air, and the wife to house-work. And this, under God, was the means of their restoration to the path of nature, and to the hopes of a rising family.

Such a story needs no comment from us. Our readers will see in it, a specimen of what is taking place, and of what might be taking place, on a greater or smaller scale, every day, and everywhere around us.

We have spoken hitherto of physicians, as if their aid and advice might for the most part be dispensed with; as if they were a sort of necessary evil, to act for us in those cases where a choice of evils only remain to us. That is, they are needed occasionally, as pilots are at sea or at the entrance of difficult harbors, &c.

This is, indeed, one use—and it is at present the principal use which is made of them. But if the time should ever come—and come it may, if the cause of "temperance in all things" should get fairly under way—when they are not much wanted for corrective effort, how are they to be employed? And how are they to gain a livelihood?

For ourselves, we should have no sort of objection to seeing this whole profession thrown out of employ, if the community could thereby be restored to sound health. We should have no fears that in a country of abundance, like our own, they could not gain, in some way or other,

and in a useful way, too, an honest livelihood. But there is no danger of their services not being needed, and in considerable numbers too—for much time to come.

Admitting, however, that the temperance cause were to make such progress among us, that physicians, after the lapse of another hundred years, would have very little to do in the way of correcting disease; they might still, as a profession, be exceedingly valuable. Indeed, were the demand once made for their services, in the way of prevention, and were they to render themselves fit for it by a more thorough course of study in anatomy, physiology and hygiene, we believe that the efforts of the whole medical corps, in this and every other country, might be usefully secured and fully employed.

But it will be objected, here, that if men were so temperate in every respect, or should ultimately become so, that nothing like acute or severe disease should exist, what will then be done with them?

We will answer this question by asking another. Is there, then, nothing for us to do in reference to health, but barely to escape acute and severe disease? Are there no complaints short of this, with which fallen humanity is afflicted? On the contrary, is not the world full of them? Are we not beset, everywhere, with hypochondria, indigestion, melancholy, and an endless train of nervous complaints—to say nothing of colds, and tooth-ache, and head-ache, and bowel complaints? And would it not be desirable to know how to escape these?

In short, were we to be exempt even from all the train of ills to which the foregoing is a mere preface, there is still room for great progress in health and vigor. Probably there is not a person on earth—man, woman or child, of any age whatever—whose health is so good as not to be susceptible of improvement by means of improved habits, at every hour and moment of life.

Are we not, moreover, bound, as christians, to make the most of ourselves, in all circumstances and conditions? But is this obligation fulfilled, unless our bodily health is elevated, at all periods of our lives, to the highest pitch of which our nature and means are susceptible? Do we serve God with all our strength—with all our bodily, nay, with all our mental and moral faculties—unless our bodily organs are improved to the highest healthy condition, and all their functions and relations duly cultivated and brought to bear in the highest possible degree on health and longevity?

In short, the use we would make of medical men, beyond that of employing them to assist in the work of correcting disease, would be something like the following—our object being to prevent all dosing and drugging, and all necessity for it.

Let every intelligent father and mother secure, at the earliest possible period at which it can be brought to bear on the condition of the infant, the best medical advice and instruction. Let them take hold of the subject, not merely as if it were a whim of the moment, but from a thorough conviction of its importance, as a matter of duty to themselves, to the child, to society and to God. There are medical men whose services, in this way, would be invaluable; and the number of such physicians would rapidly increase, were there anything like an universal demand for them.

Let them consider the force of constitution and natural temperament of the child. Let them look at him with the aid of physiology, phrenology, hygiene, and every other science which is adapted to shed light in the pathway of human life. Let them consider what are his hereditary tendencies to disease. Is he inclined to this disease or to that? to consumption, scrofula, mania, rheumatism, &c.? Let the condition—the knowledge, employ-

ments, circumstances, &c., of the parents, so far as known by the physician, and so far as they are likely to affect the child's physical management, in any respect, be considered.

In view of the whole case, and in view, too, of the extent to which the parents will be likely to co-operate heartily with him in his efforts—for it is useless to direct the “ship” unless your orders are to be *promptly* and wholly complied with—let the physician give faithful directions in regard to the child's whole physical management; his food, his dress, his exercise, his sleep, his ablutions, &c. Let the physician be consulted at least once a month, at first; and let the consultation be full, free and particular. The more enlightened parents are themselves, on this subject, the more will they enjoy these visits, and the more will they profit from them: nay, more still; the more cheerfully will they afford the expense. If an ounce of prevention is worth a pound of cure, in anything, it is here; and if so, it must forever be true that if there is any medical advice in the world worth paying for, it is that which bears upon the work of prevention, and assists us in giving our children the utmost vigor of physical, mental and moral constitution. If parents are bound to lay up for their children, no property can be laid up for them which will do them so much good in life as this. The saving of expense for medicine—in the prevention of future dosing and drugging—will be but an inconsiderable item of the whole gain to be derived from these early medical services.

As the child grows older, new questions will occur to the parents, and new instruction and advice will be necessary. If with the best efforts disease should not be wholly prevented—if there should be trouble from teething, from taking cold, &c., let the parents be taught the best methods of managing these complaints, *according to*

the habits and peculiarities of the child. In a child of sanguine temperament, for example, colds may need very different treatment from what they would in a child of another temperament, or of other habits. And so of all other complaints.

Much has been said, within a few years, by the friends of improvement in education, about *precocity* and its evils, both to body and mind. Some, in their fears on this subject, have recommended that no scientific instruction should be given to children till they are seven or eight years of age. While we have no doubt that there are, in this respect, many mistakes made in every department of primary education, we think that the question of beginning to study earlier or later, depends, in some small degree, at least, on the child's habits, temperament, society, destination, &c. ; and that here, too, great aid will be derived from judicious medical advice.

One other point is suggested by the word destination. We believe that employment, for life, is usually determined by the whim or convenience of the parent, or by accident. Now it should not be so. General usefulness, and not the convenience of the parent or anybody else, should be our aim in the education of our children. It is true, the child's taste and inclination are not to be wholly overlooked ; but if early pains are taken, we may direct these nearly as we please. Here, then, precisely at this point, is great need of a physician—and that very early in life, too—in order that we may have time to guide the child's inclination in the way in which it is intended he should go.

Were it early made a grave and important question, to what employment, among the more useful employments of life, is this girl or that boy best adapted, by his native temperament and general constitution of mind and body, and were the advice which true medical wisdom, joined to

parental intelligence and impartial investigation, would dictate, to be practically regarded, we should not see so many of our females dying of consumption from breathing the bad air of factories, when they ought to have been bred to housework; nor so many of our sons dying in shops, schools and colleges, or under the weight of professional responsibilities too early assumed, when an education to agriculture or the mechanical arts would have saved them, and given to them, for the benefit of the world, a long life of usefulness.

We will mention, at present, but one more particular in which much may be done to prevent dosing and drugging. It is by making it the duty of the owners of factories, the proprietors or masters of establishments, and the committees, trustees or teachers of schools of every grade, from the infant school to the university, to employ wise and judicious physicians to inspect at regular periods or otherwise, the buildings occupied by those under their care or oversight, not only to see that their inmates or pupils are not daily suffering from bad air, want of exercise, excess or want of sleep, neglect of cleanliness, neglect of due mental and moral cultivation, &c. Attention to the particular complaints of individuals could hardly be expected in these circumstances, at least in general; nor would it be desirable, as each parent, master, &c., would prefer to have this done by the physician and adviser of his family. On the diseases induced by bad air in factories, shops, &c., and on the health of school children and students, we may speak more particularly in future numbers.

RENOVATION OF THE BODY.

THE human body, in all its parts, is perpetually changing. We call it indeed the same, and so, in like manner, we call the stream which runs by our door the same which ran by it a year or fifty years ago; whereas not a particle of the same water may be there to-day, which was there even a week ago.

That there must be perpetual change in our bodies, is obvious from the very nature of the case. Without admitting this, we could not at all explain the phenomena of growth. All parts of the body must also be perpetually wearing out, even after growth has ceased; and if the particles removed by the wear and tear of the system were not replaced by new ones, the frame must soon be reduced to a mere skeleton, to say the least. The old particles, worn away by incessant action, must be replaced by new ones. The change is very slow, in the firm enamel of the teeth, in the nails and hair, and even in the bones; but still, even here, a change must be going on.

If these things are so—and that they are so, no physiologist will probably be disposed to deny—it follows that a time must arrive in the history of every individual who passes much beyond the mere threshold of life, when his whole system will be renewed. The “wear and tear” will have removed every particle of the body as it existed at first, and the new particles taken out of the blood to form bone here, muscle there, lungs there, brain there, &c., &c., will have entirely occupied the place of the old, forming a new body.

What it is believed must thus follow from the nature of the case, physiologists tell us they have ascertained by experiments. Of the nature of these experiments we

have not room particularly to speak ; but they are interesting, and some of them striking.

How often the human body undergoes a complete renovation in this way, has been a matter of much speculation among anatomists and physiologists. Some have assigned to the change a period of seven years, but others have reduced it to three. It must be obvious to every reflecting mind, that no definite time for this work of renovation can, with propriety, be assigned. In infancy and childhood, the change must be rapid ; in old age, exceedingly slow. It must also be more or less rapid according to the temperament of the individual. And again, some organs are more rapidly changed than others. Perhaps it may be safe to say, that no child of seven or even of five years of age, retains a particle of the physical system which was his at birth ; that no person arrived at manhood has any of the solids or fluids of infancy, or even of childhood ; and that in old age no person possesses any of the particles, solid or fluid, which formed a part of his body in middle age.

From this well established doctrine of the perpetual decay and renewal of this habitation of the human soul, we may derive, at least, one important hint in regard to physical education and physical management.

It is now well known and universally admitted, that we often come into the world with our physical frame, in whole or in part, imperfect in its organization. This is, usually, the fault of our predecessors ; or at least a consequence of their errors. The imperfection of frame, organ or function, is inherited, whether it be in the form of a tendency to scrofula, consumption, gout, mania or rheumatism.

Now if these organs, thus imperfect, could not be improved—if it were the fact, that by conducting ever so well ourselves, we must carry with us, through life, the

imperfect parts with which we begin it, we might have more reason than now to complain, as many do, of the dispensations of the Creator.

But suppose we come into life with small weak lungs. These, from birth, are continually wasting, and the waste is as continually supplied by new particles. Now what is to hinder us from supplying the deficiency induced by waste, with better particles than the old ones? What indeed is to hinder us from having every fresh supply of new particles, a little better than the old ones, as long as life lasts, or at least till we begin to decline with age? What, in other words, is to hinder a pair of lungs, naturally small and weak, from becoming, in process of time, comparatively large and strong, so as to present a barrier, almost insurmountable, to the inroads of those diseases to which feeble lungs are peculiarly subject.

If our food, and by consequence our chyle and blood, are as good as they can be made; if the air we breathe is as pure as it should be; if all our organs and functions are duly and properly (but not excessively) exercised; if, in one word, we obey all the laws of life from first to last, and disobey none of them, what—we repeat it—is to hinder an organ, naturally imperfect, from becoming, in process of time, comparatively perfect? But if the individual, in view of this perpetual renovation of his system, can do much for its improvement, in his own little life time, how much can be done in a series of generations for the improvement and elevation of the human race?

POISONING WITH PRUSSIC ACID.

"Prussic acid," says the *Encyclopædia Americana*, "is the most violent of all poisons. When a rod, dipped into it, is brought in contact with the tongue of an animal, death ensues before the rod can be withdrawn." The testimony of Magendie, the celebrated French chemist, is to the same effect. Having dipped the end of a glass tube into a phial containing a few drops of this substance, and applied it to the tongue of a vigorous dog, the tube had scarcely touched the tongue of the animal, when he made two or three rapid inspirations, and instantly fell dead. Some atoms of the acid having been applied to the eye of another dog, he died almost equally sudden. Another experiment still, was tried on a healthy strong dog. One drop of the acid mixed with four drops of alcohol, having been introduced into a vein of the animal's neck, he fell dead as soon as if he had been shot or struck with lightning.

Numerous experiments have been made on animals with the same poison, and with similar effects, by Dr. Madden, and the Abbe Fontana; and by Mortimer, Nichols, Langrish, Vater, and other scientific individuals and chemists; so that no more doubt is now entertained of the extremely poisonous nature of this substance, than in regard to arsenic or ratsbane.

And yet this poisonous agent exists all around us, and was formerly and still is much used in families; and we fear many an unknown case of illness or death is produced by it. It exists not only in the fruit of the bitter almond, in the leaves and twigs of most cherry trees, and in the leaves, blossoms, and kernels of the peach, but also in laurel water, which was once so much used in fashionable cookery. The kernel of the peach stone, though

eaten by many people, and though given as a medicine by the Thomsonian doctors, (who claim that it is not poisonous, but may be eaten by spoonfuls,) contains more or less of this acid, and must inevitably be poisonous to every one who receives it in the smallest possible quantity.

As to laurel water, it has not only been much in use among brandy drinkers, in the proportion of one part of the laurel water to four parts of brandy, but it has also been in great demand, especially in England, among housewives and cooks, to give an agreeable flavor to their creams and puddings, their custards and their blanc mange; and though we do not positively know that it is now much used by our American cooks, we have little doubt of the fact. We take so many poisonous things, and are subject to so many complaints, large and small, that it is not always possible to trace out any one cause of disease and death, in a matter where so many are concerned.

Since writing the above, we have been assured by an aged and highly respectable lady, that she has been accustomed, all her life long, till within a few years past, to use peach water, as she calls it—that is, a preparation from distilled peach leaves—in preparing custards, puddings, &c.; which of course is just the same thing as using weak laurel water, and must be equally poisonous according to its strength. Sometimes she boiled peach leaves in milk to make custards, or prepared her puddings with it. She speaks of peach cordial, which, she says, was formerly common in the neighborhood, as “beautiful.” Only two or three years ago, peach water was in great demand among the ladies of the neighborhood, but nobody could be found just at the time to distil it. She also says it is but a few years since some of the members

of her family used to procure peach kernels, to sell to shop or tavern keepers to put in their spirits !

The poisonous nature of laurel water, as we learn from Hooper's Medical Dictionary, was first discovered in England, in the year 1728, in the following singular but deeply unfortunate manner :

One Martha Boyse, a servant girl, who was living with a gentleman who sold great quantities of laurel water, procured a bottle of it from her mistress and gave it to her mother. The mother made a present of it to Frances Eaton, her sister, a shop-keeper, who she thought might like to keep it for her customers.

Accordingly, in a few days, Mrs. Eaton gave about two ounces of it to a female friend who called to see her, who drank about two thirds of it, and went away ; and Mrs. Eaton drank the rest. In about a quarter of an hour, this friend of Mrs. Eaton began to complain of a violent disorder in her stomach, soon after which she lost her speech and became stupid ; and in about an hour she died, as gently as if she had taken opium.

Mrs. Eaton, rather surprised, sent word to Mrs. Boyse, who gave her the laurel water, and told her what had happened. Mrs. Boyse came to the shop as soon as she heard of it, but said it could not possibly have been the cordial, as she called it—(for like rose water, it tastes very pleasantly, and sits on the stomach very quietly and agreeably)—and to convince her of it, she poured out and drank about three ounces of it herself. She continued talking with Mrs. Eaton about two minutes longer, when, feeling perfectly well, and to convince Mrs. E. still farther, she drank about two spoonfuls more, upon which she hardly had time to sit down in a chair before she expired, without a motion or a groan.

Mrs. Eaton was now more alarmed than ever ; for it must be remembered she had taken a spoonful or more

of it herself. She immediately took an emetic, which, operating well, she never felt any unpleasant effects afterward, which she could attribute at all to the laurel water; although for our own part we have no doubt she was injured by it more or less, and that at some future time she must have experienced its ill effects.—Two gentlemen, also, in the same neighborhood, died about the same time, in consequence of drinking a quantity of the same liquid by mistake.

How much safer would mankind be from disease, if they would let alone all cordials but nature's own! Perhaps we are in the daily use of substances which, in small quantity, do not seem to hurt us, but which may yet be found to be deadly poisons. Tea, for example, has been found to have the same effects on the living fibres of the frog with this same laurel water. How know we but it is equally poisonous to the vital organs, if taken in sufficiently large quantity?

DISAGREEMENT OF DOCTORS.

"Who shall decide when doctors disagree?" has been often asked, and with propriety. The truth is, there is not that vast amount of disagreement in medicine, any more than in religion or morals, which is often pretended, as our replies to the following letter to the editor will probably show.—We have numbered the inquiries which follow, that we may the more conveniently refer to them afterward.

"From having once been an invalid, I have given considerable attention to writings on physiology and hygiene. But on these subjects as well as others, I find that "doc-

tors differ." To the writings of Combe I am indebted for much of the health I now enjoy.

1. I observe that you agree with Combe in respect to morning cold ablutions, which are condemned, if I mistake not, by Dr. Currie, he advising that they should be taken in the evening. Johnson, in his "Economy of Health," thinks the washing or sponging of the head, neck and breast sufficient, after two years of age.

2. Again, it has generally been held that the mastication, deglutition, and insalivation of food are necessary to health. Combe says, in his work on "Digestion and Dietetics," pages 132 and 140, that fineness of particle, or minuteness of division, is sufficient; and he apparently arrives at this conclusion from Dr. Beaumont's "Experiments on St. Martin."

3. Again, you recommend an entire vegetable diet—despite the formation of the teeth and the intestines, and despite too of a cold climate. Would not a Greenlander or Laplander perish on your principles? I do not propound this question because I am particularly carnivorous, but as an honest inquirer after truth. I have no sympathies with the glutton, or with the thousands in our land, and particularly in our cities, who, by their habits of eating and drinking, are yearly courting the embrace of Dr. Young's "slow sudden death," and who would seem, from their aversion to take care of themselves, by a little self-denial, to be in love with immortality.

4. In your list of articles of food, milk does not take the pre-eminence which, as I suppose, belongs to it. Can there be anything more natural to the stomach or more simple and easy of digestion, than that which the God of nature has provided for the young?

5. Again, you do not seem to have the same high opinion of flannels, worn next the skin, that Combe does.

And yet, in our variable climate, they must be, if anywhere, peculiarly necessary.

6. One more remark and I have done. It has been suggested, that the entire disuse of animal food would debilitate the stomach, very much in the same way that we lose our bodily and muscular strength by not using our limbs. How much there may be in this, I do not pretend to judge. The suggestion was made in the New York Observer, sometime since.

I am aware that few seem to act as if they believed that they were "*fearfully* and wonderfully made," or that "whether they eat or drink they should do it to the honor of God." The "*sana mens in sano corpore*" is sacrificed to passion and appetite; and so averse are men to thinking and inquiring for themselves, that they had rather swallow a whole druggist's shop than obey the laws of God and their own physical organization.

7. Ought children to wear flannel next their skin, particularly in the winter?

8. Would not vegetable food alone, render man imbecile, inert, passionless, of slender frame and short lived, and addicted to the vices of a pusillanimous people, such as lying, stealing, &c.

B. R. W."

REPLY.

1. To the first inquiry—that respecting cold morning ablutions—little, we apprehend, need be said. Dr. Currie, if not wholly alone, is almost so. Dr. Johnson, we believe, is not opposed to them.

2. Dr. Beaumont's opinion, quoted by Dr. Combe, is not and cannot be generally received, because the excellence of the chyle will depend much on its *vitality*, and this no chemical analysis will enable us fully to detect. The matter is to be determined by other observations and other experiments.

3. Here doctors, indeed, do slightly disagree. Our preference to a vegetable diet, is not "in despite of teeth, and intestines, and a cold climate." The teeth, stomach and intestines, indicate—so far as they indicate anything—that man is a vegetable and fruit eating animal. They resemble the teeth, &c., of the ourang-outang and other ape tribes, whose natural food is well known. According to Capt. Parry, the northern tribes would do well on good vegetable food, if they could get it. But if it were not so, are they not out of their place? Until the world is more thickly populated, what business have men in Greenland?

4. Milk for children, and strong food for adults, is our motto. Our views of milk will have been seen by our correspondent in our number for January last.

5. Flannels, next the skin, for those who have been accustomed to them, we prefer. For those who have not, we prefer cotton, both because less stimulating, and for other reasons.

6. The sixth and eighth queries may be answered together. The objections they involve to a diet exclusively vegetable, are opposed to fact, entirely so. If this assertion is not satisfactory, we must refer our correspondent to the closing chapter of our work on "Vegetable Diet," and to an article which will shortly appear in this journal. The subject is too broad to be discussed in this number.

7. We think children who have not yet been accustomed to the use of flannel next their skin, would not do well to wear it, even in winter. We are, indeed, quite sure, that except in cases of disease, cotton is better.

BODILY PURITY.

A VOLUME has just appeared, entitled, "A treatise on the diseases produced by onanism, masturbation, self-pollution, and other excesses;" by L. Deslandes, M. D., of Paris. It is translated from the French, as we understand, by a physician of New York.

We are glad to see the community, especially the conscientious part of the community—for it is to them we look for all permanent or radical reform—in a fair way to be enlightened on this important but painful subject; for, as we have said formerly, so we say again, *the evil must be met*. It is not confined to our youth of either sex, nor to celibacy; it leaps the bounds of age, matrimony, and everything else; and is rapidly drinking up the vital energies, and deteriorating the health of our race.

Public war, through the press, against this hydra vice was opened in this country, so far as we know, by a chapter at the end of "The Young Man's Guide;" which appeared in 1833. But Graham's "Lecture to Young Men," the best book on the subject—incalculably so—which has ever yet been written in this country or in any other, made its appearance in 1834. Subsequently to this period, many valuable suggestions on the subject appeared in the Reports of Dr. Woodward, Superintendent of the Massachusetts Lunatic Asylum. A volume, also, by Tissot, appeared; and recently a small one by Dr. Woodward, whom we have mentioned. The work by Deslandes, is the latest on this subject; and inasmuch as it discloses the greatest number of the most astounding facts—Tissot, perhaps, excepted—is the most remarkable.

We hardly know what to say in regard to the general utility of this work; satisfied though we are, that it tells

a world of truth which must be told. But why is it necessary to introduce French books on this subject, when we have better ones of our own? The works of Graham and Woodward breathe a christian spirit; but can we say this of the work of Deslandes? Have we not great reason to regret the introduction, in every form, of that infidel philosophy for which France has been so long distinguished? Are we to be gravely told by an intelligent French author, that it is right to counsel "the young man who indulges" in bad habits, in some circumstances, "to gratify his feelings in a less dangerous manner?" Shame on such sentiments from the mouth of any who profess to be intelligent men or good citizens! And shame on those editors, too, who commend such a work, and yet sneer at the two manuals to which we have just alluded!

But the example to which we have referred, is not the only one which might be cited to show that the work of Deslandes, is imbued with the immorality of the French school; and that while by its many excellences, it may save on the one hand, it must, by some of its tendencies, destroy on the other.

STATE OF THINGS IN PARIS.

IN Paris, says a traveller, an anatomical museum is open to the public, gratis, three days in the week, and is visited by thousands. In the same city, one may see at the show windows of some of the stores, wax models of dissected portions of the human frame, together with the real skeletons of infants, exhibited there, *like any other article of merchandize.*

TEACHER OF HEALTH.

JANUARY, 1843.

PHYSICAL EDUCATION.

OUR leading object, as an editor, during the last eight years, two of which were spent on the *Moral Reformer*, and six on the *Library of Health*, has been the promotion of correct physical education by enlightening the community, especially parents and teachers, on the subjects of *Anatomy, Physiology, and Hygiene or Health*. This will still be our main or leading object—we are devoted to no other.

But it is no part of our intention—it never has been so—to diffuse light on the structure, functions and relations of man, as the ultimate *end* of our labors; but rather as a *means* to an end. Moral or spiritual advancement has been the chief end to which our eye has been directed, and still is. To make men more healthy and long lived, without making them any wiser or better, what good purpose could it possibly answer? It would do little if any thing more than to make them the more gigantic, if not the more mischievous animals.

Grant, however, that it were a worthy object at which to aim, to add to human health and longevity, without making the world wiser or better. We offer premiums for the most improved breed of horses, cattle and swine;

admit, for the moment, that it were desirable to improve man as well as the other animals. Granted, we still say, the most which could, in this respect, be claimed. How little, how insignificant the object, compared with that of elevating man as an intellectual being, and still more as a spiritual !

Our position in civilized society is such that our physical frame, or the laws which obtain in it, must be universally understood and universally applied in the work of early education, or morality and religion must not merely become stationary, but must—for a time at least—have a retrograde movement. No human power—military, civil or ecclesiastical—can possibly prevent it. Society must be reformed and improved, in no small degree at least, by the correct physical education—in the family, the school and the church—of the successive generations of men, as they severally appear upon the stage of action.

The reform will indeed be slow ; it is best perhaps it should be so. Could parents and teachers be awakened and enlightened, and children better educated, both physically and morally, they would begin families under better circumstances than now ; their children, in the same work might advance still farther ; and thus we might proceed, till in the lapse of a few centuries we might hope for a radical change in the face of society—a change not more favorable to health and longevity, than to morality and sound intelligence.

We admit, indeed—we dare not attempt to deny it—that to rid the world of all the multiform evils that have their origin in the lusts that war in our members, and restore it to sound physical health, is no mean or unworthy object. But how much more noble is the work of elevating man heaven high, as it were, in comparison of what he now is, intellectually and morally ! If it is something to raise him from the condition and capacity of a

brute, and make him a "man," it is still more to make him, as the poet Young expresses it, "a god."

Let us then go on in our work. Let us labor and pray always, and not faint. There remaineth, in the work of physical advancement, "very much land to be possessed." Let us make haste in doing good—let us do what our hands find to with our might—but in compliance with a wise old adage, let us "make haste slowly."

HEALTH THE BEST PREVENTIVE.

IN Good's Study of Medicine, under the head *Phlogotica*, or Inflammations, we find the following words :

"The standard of firm health is the best guard against inflammations of every kind, or the state in which a man is the least susceptible of them." And after enumerating various exciting causes of this class of diseases, he repeats:—"Inflammations from any of these causes will partake of the character of the constitution ; and hence proceed kindly or unkindly, according as the constitution is in a diseased or healthy condition." To which he still adds, in another place, by way of explanation and confirmation—"It is not till the constitution has been broken down, and the liver rendered feeble and torpid by the influence of a tropical sun, that hepatitis makes its appearance in its ordinary course of attack ; phthisis (consumption) occurs in relaxed and delicate, and not in hardy and robust frames ; psoas abscess, peritoneal inflammation, struma, (scrofula,) and those vast formations of pus which are sometimes found in parabysmic tumors or physconics, for the most part follow the same track."

Now we do not quote these passages as if they broached a new doctrine, but simply to do something towards re-

moving an old one. Instead of regarding sound health, in man, woman or child, as the best preventive of disease, the more general notion is, that those who are in the possession of perfect health, and have sound and vigorous constitutions, are just as much exposed to disease, as those who are more feeble or positively sickly. Indeed there are not a few who regard them as more exposed, and more likely to suffer severely when attacked.

But it is not so, and in the nature of things cannot be. Every intelligent medical man will tell us so, as well as Dr. Good. It is not till the constitution has been in some way or other affected, if not impaired, that any disease whatever can find a lodgment. It is not inflammations, liver diseases, scrofula or abscesses alone that are encouraged by feeble health, but every ill to which flesh is heir. How important then that sound health, in all parts of the system, should be maintained ; and how unphilosophical are the notions which generally prevail ! And how great the need of popular instruction, in our families and schools, on this amazingly important subject !

HEALTH OF STUDENTS.

LETTERS TO A FATHER.—NO. I.

The following is the first of a series of " Letters to a Father," concerning the education of a son, who was disinclined to exercise, and prone to read and study late at night as well as under other circumstances unfavorable to his health. We hope the letters will be as useful to others as they are believed to have been to the individual for whom they were originally designed.

God in his Providence has shown me, by the interposition of the sciences connected with medicine, some of the causes of your son's ill health. Let me then impart to

you the knowledge on this subject which I possess. It can at least do you no harm ; it may do good.

Your son is afflicted with scrofula, in what Dr. Eberle would call its latent state. No matter, for the present, how he became so ; though of that I may speak at another time. It may or may not proceed to an active form of the malady—I hope it will not.

Do not be alarmed at the word scrofula. Thousands in the single city of Boston are, at this moment, more or less affected with it ; and as things are going on, I am afraid that in half a century more the disease will become so common as to warrant the statement that there are tens of thousands.

“The growth of the body,” in this disease, says Eberle, “usually proceeds slowly ; but the mental powers are generally precociously developed, and often astonishingly active. The head, particularly the posterior part, is usually large, and the temples flattened or somewhat depressed. This dormant or inactive state of the disease may continue for many years, and at last pass off without terminating in any particular local affections. More commonly, however, the scrofulous habit gradually acquires strength, and at last, under the influence of the usual exciting causes, shows itself in its more obvious and active form.”

He also mentions—and it is usual for authors to do so—“a peculiar delicacy and languor of the countenance, with a soft, rosy tint of the prolabia and cheeks ; or a pale, soft, flaccid, and apparently tumid aspect of the countenance, with a dull lead-colored circle round the mouth, and a swollen appearance of the upper lip.” I do not think, however, that these appearances—except perhaps the tumid upper lip—are quite as certain indications of disease as those of the preceding paragraph.

But what are the exciting causes—that lead from latent to active scrofula—as mentioned by Dr. Eberle ?

1. *Impure air*.—Nothing is more important, it is agreed on all hands, to scrofulous people, than pure air; and nothing more likely to accelerate the progress of the disease than bad air. No matter whether this air is breathed in one place or another—the factory, the shop, the school room, the parlor, or the bed room. No matter, I mean, if the emanations are the same—those which are generated by the human body—though I am aware that in some places there are emanations from other bodies, which add to the impurity. But a pure air, as pure as possible, is every thing in scrofula, whether latent or active; and every thing else, or almost every thing else, should be sacrificed, in order to obtain it.

2. *Inactivity of body*.—So powerful an excitant of scrofula is bodily inactivity, that I doubt whether a sensible writer on this subject can be found, who has not insisted on regular daily exercise in the open air. This is intended to exclude *inactivity* and *bad air* at the same time.

3. *An innutritious or indigestible diet*.—I asked an eminent medical man one day, what was usually intended by authors when they spoke of a bad diet in case of scrofula. He said, coarse vegetables in too great proportion, such as turnips, radishes, &c.; vegetables of bad quality; and fat or indigestible meats, as tendinous or gristly portions, &c. Then, said I, you do not consider good farinaceous food as prohibited. By no means, was the reply.

“The enjoyment,” says Eberle—I quote him because he is as sound an author as I happen to have at hand—“of a pure, dry and equable air, an attention to proper clothing, so as to obviate as much as possible the injurious influences of atmospheric vicissitudes, a wholesome, abstemious, but nourishing diet, regular exercise in the open air, and cleanliness, constitute the means upon which our hopes of successful opposition to the progress of the mal-

ady must chiefly be placed. All kinds of stimulating, irritating articles of food must be carefully avoided."

4. But there is one more exciting cause of scrofula as deserving of our notice as any of the preceding. I mean *great activity of the mind*. We have seen that in scrofulous persons there is a tendency—a kind of innate tendency—to this very thing. We should, however, set our faces as a flint against it. Make the body work all it safely can, in the open pure air of heaven, provided, however, it can be done in such a way as to keep the nervous system and the mental powers quiet; but make the mind work as little as it possibly can without exalting the sensual activity.

Now had I a son of the age and temperament, and past and present habits of —, I would, if possible, make him a farmer. It is true I do not know all the difficulties you may have to encounter, with a view to this end; but there can be none, I am sure, which I would not be willing to meet, in the hopes of rendering him useful and happy. I have a son of nearly four years of age, who with the same latent predisposition to scrofula, I intend to treat as I have advised you. He is now as old as I was when I began to attend school; and there is reason to believe he would make just such a precocious pupil. Yet I have no idea of sending him to school, or even teaching him to read these three years. I mean to keep his mind as inactive as possible till he is from seven to ten years old. I would gladly develope the *vegetable* part, and only the vegetable. Put him into the schools; and though he might delight and astonish us all, for a few years, he would, by the time he arrived at puberty, be ruined. If I had mines of gold and silver at my command, I would not let him be a book-worm, if in my power to help it. The farm and garden are the places for him; and there, in the good Providence of God, and with his permission, I intend to place him.

If the farm were as humiliating and useless a place as many suppose, it would greatly alter the case. But I have not so learned. The farmer is nature's true nobleman. His is the true sphere of action. He can reform himself—the social system—the church—the state. Not with pen, or public speech, or wand, or sword; but with plough, and hoe, and spade, and a strong, rightly guided intellect. Not in a year or a century; but in God's own good time—as soon as can be done with due regard to the public safety.

Let me prevail, therefore, when I entreat you, as you value the health and life and usefulness of your son, to do all in your power to direct his attention away from his books, and turn his thoughts as speedily as possible to agriculture and horticulture. I do not mean by this that I would have him ignorant, for ignorant he need not be though a farmer. He will still have time to study. The farm will be his college, as it ought to be; for if he ever goes to any other, it should not be till he has spent from ten to twenty years in the open air.

DRAWINGS OF THE HUMAN STOMACH.

It has long been known to medical men, that the lining membrane of the human stomach is affected more or less by the long continued use of alcoholic liquors. In the arrangements of Divine Providence, however, it was reserved for Dr. Thomas Sewall, of Washington, to bring out, as it were, this suffering organ, and expose it to the public gaze, that men may not merely "*hear*," but have ocular demonstration, and fear.

Dr. Sewall has caused to be prepared eight colored drawings, exactly representing the changes which the

stomach undergoes, in passing from perfect health to the last stages of cancerous alcoholic disease. To accompany these, he has also prepared a small bound volume, entitled the Pathology of Drunkenness. A set of the drawings, of colossal size, costs ten dollars; though a smaller set can be obtained for seventy-five dollars for a hundred sets, or one dollar for a single set.

A strong effort is now making by Mr. E. C. Delavan—long known to the world as a devoted friend of temperance—to place Dr. Sewall's work and the drawings in every school district library in the state of New York. From a statement by Mr. Dwight, editor of the New York District School Journal, we learn that there are in the whole state about 11,000 school districts; and from a letter by the Superintendent of the schools to Mr. Delavan, it would seem that there are 600,000 children under instruction in them. But this does not determine the exact number of libraries.

The scheme of Mr. Delavan is as herculean as it is praise-worthy; and we hope it will be entirely successful. "No appeal," says Mr. Dwight, "can be made more effectually to the mind, no more fearful warning can be given to the appetite, than these delineations of the ravages of that fatal poison which so long has mingled death in the cup of pleasure. Impressions thus silently and certainly made on the minds of children cannot readily be effaced; and though the picture speak not, its power will be felt when other monitions are forgotten."

The example of Mr. Delavan is not wholly powerless. Another individual has already furnished the means to supply each school district in the city of New York with the volume of Dr. Sewall, and eight sets of the drawings for exhibition in as many public institutions in that city. Another has engaged to supply each school district in the city of Brooklyn. The Superintendent of common

schools has engaged to supply every school district library in his own town. Mr. Delavan has also announced his determination to furnish a complete set of the colossal drawings, framed, to as many of our literary institutions as he can find means to supply.

The bearing of these efforts of Mr. Delavan and others on the public health needs not to be repeated. Would that not merely each school district of New York, but each family in the United States, were supplied with both the book and the plates. There is also a valuable essay on the Wines of antiquity, by Rev. Dr. Nott, of Union College, Schenectady, which goes with the copies already mentioned, at seventy-five cents a hundred, for common schools, and adds much to their value.

VENTILATION OF PUBLIC BUILDINGS.

WHEN the importance of a constant supply of fresh air to health is as well understood as it is at the present day, it is surprising that so little provision should be made, in our public buildings intended for large auditories, for furnishing them with the first necessary of life. Without good wholesome air, how little can warmth and food do to make life comfortable !

Mr. Combe, in one of his lectures delivered in this city, urged this subject upon the attention of his hearers. And though I presume I can say little more than what he has said, and what has been before brought forward in your former journal, the Library of Health, yet repetition of remonstrance ought not to be intermitted where the case is urgent, until it leads to reform.

My purpose is to speak only of the state of things in this city. Let any one go to the State House and enter

the Representatives' Hall while that body is in session. He is met at the door by a pestilential atmosphere which at first seems perfectly intolerable.* After he has been in the house a few moments, the senses get accustomed to the effluvia and bad gases, but the poison is no less injurious to the system. And I believe firmly that every member of the house who continues in his seat during its sessions, has the healthy tone of his body impaired, the energy and activity of his mind weakened, and his life as certainly shortened, by the foul atmosphere which he breathes, as if he took a daily dose of opium or alcohol.

If one goes to any court room in the city during a crowded trial, he finds the air as insupportable as at the House of Representatives. Judges and lawyers complain of the deadly influence of crowded houses upon their constitutions, but in vain.

All the lecture rooms that I have ever been in are very defective in their modes of ventilation, and so are many of the meeting houses.† Men, and still more, women, are daily suffering from the impure air of these places. Indeed many persons of feeble constitutions are obliged to give up all public meetings, for fear of the ruinous consequences.‡

The evil of which I complain is enormous. It often takes away half the pleasure of public meetings. Many persons experience great lassitude and uneasiness on such occasions, who are entirely unaware that the chief cause

* We have met this same pestilential atmosphere at the entrance of public buildings, and even of school houses, a hundred times. Who can wonder that the average amount of time lost by sickness, among us, is increasing every year, as we find it to be?—ED.

† Some of the churches I have not entered, and therefore cannot speak of all.

‡ Many more will, ere long, give them up, unless something can be done in the way of ventilation.—ED.

of their uneasiness is the impurity of the atmosphere.*— That our windows do not answer the purposes of ventilation is most obvious. If one man wishing to breathe freely pushes up a window, his neighbor, at the request of a lady who cannot bear the draught of air, immediately pushes it down.† And if it be left up, there is a great probability that some persons in its vicinity will catch cold. In the extreme days of winter especially, this mode of ventilation is excessively disagreeable.

What then ought to be done? I am not sufficiently familiar with the subject of ventilation to go into details. But the subject is well understood by others. I know in general that a supply of fresh air can always be furnished, wherever people will pay for it.‡ In winter, hot air admitted into a room near the floor, with openings in the ceiling to allow of a free escape of the air, will answer the purpose. In summer, a constant supply of fresh air can be introduced from the outside of the building, and admitted near the floor, while similar openings in the ceiling will give a free circulation.

It is not creditable to our city government, that a new court house should have been built without the slightest attention to ventilation, so that the air in the passages, being never changed, seems like that of a dungeon, while that in the court rooms, while the courts are in session, is far worse. But what, I repeat it, can be done?

A SUFFERER.

* Not a little of that stupidity which is charged by religious teachers to other causes, is owing to the influence of bad air.—ED.

† The same trouble is met with in railroad cars, steamboats, &c.—ED.

‡ Nor does it cost much, after all. A belt of it, forty-five miles high, encircles our globe; and was doubtless intended by the liberal hand of the Creator, to be "without money and without price," like salvation itself. In truth it costs about as much, after all, to exclude as to admit it.—ED.

SHORT BREATH, OR THE "PHTHISIC."

PERSONS of every age are to be found—perhaps in greater numbers than in former times—who are troubled with what is popularly called *phthisic*; in other words, they have greater or less difficulty in breathing. Dr. Good gives to this affection the name of "Short Breath;" and proceeds to describe five varieties of it, produced by as many different sources. 1. Short breath from organic deformity, oppression, or accidental injury. 2. From calcareous or other spicular materials inhaled while working on stone or metals. 3. From the mischievous action of metallic or other poisonous exhalations. 4. From a phlegmatic or cachectic habit. 5. Accompanied with oppressive fatness.

We do not intend to enter now upon the treatment of this disease, in all its varied forms; but we cannot forbear to say something of two of them. The whole subject is closely connected with physical education, or rather, in truth, forms a part of it.

The first form of the disease is that which is induced by organic causes, by oppression from tumors or other internal affections, or by accidental injury. Under the latter head are included the frequent diminution of the cavity of the chest by rickets, by a softening of the bones, or by some accidental injury by which the ribs or sternum have lost their proper form, and are become incurvated, and without a power of elevation.

"In all these cases," says Dr. G., "the healing art can do little more than look on. It may, perhaps, occasionally palliate some of the distress to which the patient is irrevocably doomed; but it cannot go beyond. Perfect tranquillity of body and mind, gentle exercise, a light diet, with a total abstinence from flatulent vegetables and fer-

mented liquors, and an undeviating habit of regular hours, comprises, perhaps, the whole that can be recommended by the physician, or attempted by the patient."

The other variety of short breath, of the treatment of which we propose now to speak, is that which proceeds from or is accompanied by a short stunted figure, and considerable corpulence, or at least obesity of the chest. "We see persons of this description," Dr. G. says, "significantly described by the colloquial term *pursy*, pant, perspire, and grow fatigued, day after day, upon little exercise, and yet press on without any serious inconvenience to a late period of life; or if they sink suddenly and sooner, they yield rather to apoplexy, as a result of their general habit, than to the idiopathic affection before us. Abstinence from spirits, wines, and fermented beverages, a meagre allowance of animal food, a soluble state of the bowels, and exercise rather persevering than violent, will form the best plan for present ease, and the best guard against threatened mischief."

It is not uncommon for physicians to bleed in the last mentioned circumstances; but to this a strong protest is entered, on the ground that though it may afford some temporary relief, it is of no service in the end. The case is quoted of a female who in a few years had been bled about two thousand times, and was not a whit better than before the first bleeding. A warm bath and friction—often repeated, and continued till it excited perspiration—in about ten days produced a favorable change, and she was in the end greatly improved.

It is by no means uncommon to find children of a full or rather corpulent habit, who are affected with this difficulty of breathing, especially when they take cold; and for every attack of this sort they are dosed. What oceans of animal and vegetable oil, saying nothing of herb teas, elixir paregoric, and even laudanum, have been taken to

cure the "phtthisic!" And yet according to Dr. G., to little or no purpose;—nay, to a purpose worse than none.

But what then? Shall we turn away from physicians, as if they were of no service? Let us, rather, turn away from our unfounded reliance on medicine to cure that which we ought to prevent. Turn away from the physician? Why not rather employ him to teach us the art of preventing that which it costs us ten times as much to cure? Say you, he will not give us the information? Have you sought it at his hands? Have you even been willing to accept it when he has offered it? To whom are you indebted for the information contained in the foregoing quotations? To whom, indeed, but to a medical man—one of the very fraternity whom, in these days of skepticism, many are so much inclined to despise?

Say not, we repeat it, that physicians are unwilling to teach the community the art of preventing disease, till you have tried them. They cannot, of course, compel your attention to the subject; nor should they. But make the demand of them, on behalf of yourselves and your children, and depend upon it, you will find them more ready to the work than you suppose. Or if otherwise, that demand for an article in the market which is always the precursor of a supply, will lead them to qualify themselves for it.

Medical men, were they what medical men might be, and what it is for the interest of parents and children they should be, are very far from being too numerous. There is work enough, and more than enough for them all to do—work, too, for which the community can well afford to pay. Do you ask what it can be? Study anatomy, physiology, hygiene, and see that they are taught in all our schools and seminaries, from the lowest to the highest of them, and you "will then know."

COLD BATHING.

A THOUSAND questions are asked, by the uninformed, respecting cold bathing. Should it be commenced as soon as a child is born? Should it be continued all winter? Is it advisable to continue it during the progress of a cold?—a fever?—the measles?—the kine pox? &c.

Now all these questions would be easily answered by the diffusion of a single correct principle. The cold bath is not only safe, but invigorating—and hence salutary—whenever it is so used as to produce a full reaction; that is, a speedy and complete return of warmth and the activity of the functions. If this reaction is produced, it is as safe in fever, measles, kine pox, or even small pox, as in any other circumstances. It is as safe to the child of a day old, as to the man of thirty; and to the old as to the middle aged or the young. The only question is whether a reaction will follow. But this must be left to the judgment of those concerned, and to experience. Water may be applied to small portions of the surface, or even to larger portions for a moment; and if followed by a reaction, may afterwards be applied more extensively or more thoroughly.

But the great difficulty in the public mind is the *want* of this principle. Hence at every corner they pass, they have questions to ask, such as are indicated at the beginning of this article. Let us then briefly reply, in the detail which is demanded.

1. In general, new born infants should not be *immersed* in cold water, at first. Indeed, whether we immerse them or apply the sponge, it is better that the water should not be of a temperature much lower than that of a child's body, or about 98 degrees of Fahrenheit. It should be made a few degrees cooler every day—taking care to se-

cure a reaction—till in a few weeks most children will bear it of a temperature of 60, or even 50 degrees.

2. Except in the case of young infants or feeble adults, it should be continued all winter. Singular as it may seem, the reaction, in the vigorous, will be quite as certain as in the summer;—perhaps a little more so.

3. If carefully managed, it will generally do more good than harm even in a cold. Most colds are attended with a degree of fever, especially in their early stages. But there is nothing like cold water, externally and internally, in fever.—This answers not only the third question above propounded, but also the fourth.

With respect to continuing the cold bath during the progress of measles and other eruptive diseases, there can be no possible harm in it, if we are sure it does not overpower and prevent reaction. In a school near London, it was continued every day, through the whole course of the measles, and with apparent good effect. The secondary effects of the disease, as they are usually called, did not make their appearance in a single instance. Nor was there any necessity for medicine.

PHYSICKING OFF CHILDREN'S DISEASES.

THE strange propensity prevails, every where, to use medicine in some form or under some plea or other. The smaller complaints, even of infancy and childhood, such as measles, mumps, whooping-cough, &c., which all admit should, during their progress, be trusted to nature, must be at least physicked off in the sequel.

A few months since the family of a sensible neighbor of ours had the measles, and were getting on with it, as might have been expected of a temperate and compara-

tively healthy family, very well. "I suppose," said the father one day, "that it will be necessary to take a little mild physic, in the winding up of the disease."

Physic, we replied, for what purpose would you give physic ?

"Why, I have always been told that some loosening or opening medicine should be taken, after the measles are fairly over."

If there is costiveness or any other obstruction, the question might indeed be raised whether medicine ought not to be used ; but if all is well, as I understand to be the case in your family, I cannot see any necessity for using medicine.

"But I have always supposed other diseases were apt to set in, such as inflammation of the eyes, brain fever, or dropsy, unless pains were taken to keep the bowels open and free."

This, I am aware, is a very common opinion ; but it is wholly unfounded. The best way is to let well enough alone, as the saying is. If a child is getting along well enough with the measles, or if after having got through with them he is well enough, why should we interfere and give medicine ?

Besides, what is most wanted, in the sequel of measles and all other diseases, is full strength and vigor. These are the best security against the setting in of other diseases. Whatever diminishes the general strength of the system must do harm. Could it be proved that there were present, in the first passages, (the alimentary tube,) irritating substances, whether fluid or solid, the removal of these, if done quickly, would not diminish the general strength of the system, but on the contrary would add to it. In all other cases, however, medicine would lower the tone of the stomach and of the system, and tend to invite disease, rather than repel it.

What was the effect of this conversation on the mind of this neighbor, we never knew. The great probability is, that he conversed with his wife on the subject, and finally with his family physician ; and that mild cathartics, such as ignorance says will do no harm if they do no good, were recommended and taken. And if in consequence of the loss of strength or tone, induced by the medicine, weak eyes or any other evil followed, it was charged to the measles, and not to the medicine.

How long will it be ere we shall learn that the correct and healthy play of all the parts and functions of the system is not only the best preventive of disease, but also the best corrective ! It is to ensure this "correct and healthful play," that the use of medicine ever becomes legitimate or desirable. But it is not always as easy to foresee that such will be the effect of a given substance as most persons suppose. The best physicians very often misjudge in this matter, and do more harm than good by their interference ; what, then, is likely to be the consequence when *they* interfere who are a thousand times more ignorant ?

That physic, as it is called, is often given in the sequel of disease with apparent success, is undeniable. Why, then, will it be asked, *this appearance* of success ? Because a reaction in the system having already commenced, the depression of a single dose of laxative medicine is only temporary ; and the patient soon rises again. Mankind, says an aged physician of some eminence, are tough ; and one must think so, who considers, but for one moment, to what an extent poisonous drugs are in daily demand in our country, and to what an extent they are swallowed, at the suggestion of ignorance in the guise of false experience. This dosing and drugging is not so much the effect of downright villany, as is usually supposed. Let correct principles be instilled into a single

generation, and the use of drugs and medicine will greatly diminish. We do not say it will wholly disappear, for *the disposition to do right* does not, in this world, at least, always keep pace with *the knowledge of what right is*. Still there would be great gain in the end. The more the truth can be spread out before the world, the more we enlarge the domain of conscience ; and if in this respect we do not witness any *immediate* good results, we may hope for a harvest of good at a period more or less remote.

REFORM IN DRESS.

MUCH may be done to reform society in regard to dress, by correct physical education. Not indeed by that kind of education which wholly misapprehends or perverts the child's opening nature. Not by that education which stupifies us at the threshold of existence—which infuses coffee, tea, and other narcotics into the legitimate food of the child, till it has not life or spirit enough to demand exercise. Not by that kind of education which consists in dealing out paregoric, or laudanum, to benumb the brain and nerves, so that the mother can employ or amuse herself elsewhere. Not by that kind of education which consists in leaving children at home, with servants or other persons, while we ourselves attend the concert, the circus, the theatre, the assembly, or the ball, and remain there all night, and endeavor to quiet conscience by calling it exercise. Nor by that education which sends our daughters thither, and prevents their rising early in the morning, and handling the broom and duster, or walking abroad briskly in the open air, lest they should be vulgar. Nor yet by aid of half a dozen or a dozen ligatures about the body or the limbs, as if it were our object not only to

impede motion in general when we walk abroad, but also to prevent it wherever we may be.

I have shown in a former lecture,* that the skin is a curious and highly important organ, and that it has important functions or offices to perform. Now these functions cannot be performed without free and liberal motion. But how can that skin act freely which is so compressed that it can hardly act at all?

If there were no other argument to be brought against having our dress too tight, except that to which I now refer—the fact that it compresses several square feet of the surface of the body in such a manner and degree, as to prevent the skin from performing its proper office—this alone should be sufficient to banish the custom forever. Especially should it be so with christian mothers; and above all, in the education of their children.

True it is that in speaking thus we are apt to reach the conscience of no one individual, because all appear to have a sort of vague belief that for themselves, they do not dress too tightly. I have seldom found an individual who doubted that lacing the body too tightly was an evil; but yet I have seldom found any one who confessed to the fault in her own case. All or nearly all suppose they lace in moderation only.

Now as surely as the chest is lined throughout by mucous membrane, and covered with skin, just so surely is the action of both these membranes impeded by the dress of nearly every female member of society; and by that of no small number of the other sex. It is not tight lacing alone which is objectionable, but *all* lacing. In this respect I must not hesitate to declare the whole truth.

* This article is extracted from a manuscript lecture on "Exercise," which is usually preceded, in the course, by one on Cleanliness, in which the skin is very minutely described.

I say, therefore, to people generally, You certainly dress too tightly, especially about the chest; and whether you suffer any present inconvenience from it or not, you must as certainly suffer from it, sooner or later, as you exist.

It is not the skin alone which is injured by compression; it is the muscles, the bones, the cartilages, the heart, the liver, the stomach, and especially the lungs themselves. More than even this. It is all the organs or parts of the system which sympathize with the lungs. But will any one be able to mention any part of the system that does *not* sympathize with the lungs? Some, indeed, have a stronger bond of intimacy of this sort, but all are closely connected.

I cannot make this painful subject sufficiently intelligible without either diagrams or models. These are wanted to show the shape of the chest, first, as it should be, secondly, as it now is. Not merely as it now is in some instances, but as it now is, to a degree, in every instance. For not only do we find the shape of many a chest inverted—turned bottom upwards—but we find that of all or nearly all greatly changed from its normal or natural state, and instead of being smaller at the top and broad below, we find it gathered more or less like a purse at the base or bottom. Have you never seen busts of the Grecian and Roman females, especially the former? Have you not even seen—some of the oldest of you, at least—just within your remembrance, here and there a grandmother of the last century? Then you have seen chests and the representatives of chests such as are seldom to be found now. Nor has the mischief ended, I repeat it, with one sex. It is impossible for females to be degenerating as females now are, from errors in dress and other multiplied infractions of God's natural law, and the whole race not suffer by it. We are all deteriorating, at least physically; and tight dressing is one of the causes.

And if consumption and scrofula, and heart, stomach and liver diseases are increasing with rapid strides among us, this, too, is the result, in no trifling degree, of the same cause. The mother, in consequence of a feeble organization, and especially a slender and feeble chest, transmits to her children a tendency to the same state; and they almost as surely fall into consumption or scrofula, as effect, by the laws of the great Creator, follows cause.

Mothers, then, be admonished. The world rests, as it were, on you. Shall it, or shall it not rise? It has fallen by woman, so we are told; if ever raised again, it can hardly be raised without her influence.

In our dress, not a pound weight—no, not an ounce, were it possible to avoid it—should ever rest on the surface of the human body. Every where should the skin and muscles have full, free and perfect motion. Ligatures of any sort are inadmissible, whether at the neck, the chest, the loins, or the lower limbs. Perhaps no error, equally small, is productive of more suffering than the custom of wearing ligatures—under whatever name—around the leg. Who that understood the philosophy of the circulation and of the skin, would dare to do this? He might as well strangle himself or cut his throat, provided it were done slowly enough, as tie up tightly either that or the lower limbs. Better strangle ourselves, we had almost said, than tie up or compress the chest.

THE MOTHER'S MEDICAL GUIDE.

THIS book, long ago announced in the Library of Health and in the Boston Medical and Surgical Journal, has at length made its appearance. It is published by T. R. Marvin, of this city. Besides a preliminary ad-

dress to mothers, it has about eighty separate articles or chapters, treating of as many different forms of disease. It is a volume of 314 pages, with a frontispiece.

The object of this volume—which has been nearly two years in preparing—is to aid mothers in the physical education of their children. It is not to set them to giving medicine, but to teach them to avoid any such necessity. It defines, or attempts to define the limits to which the mother should go, and tells her where to call for aid. It is, in truth, if no mistake has been made, precisely what was wanted in the non-professional world. Not that we have occupied the whole ground; for we have not touched the subject of adult disease, except incidentally. Guides to Health for other classes of the community—of the same general character—may or may not follow.

The following are a few paragraphs of the introduction to the Mother's Medical Guide. They will enable the reader to form some idea of our main intention.

“It has been said by President Lindsley of the University of Nashville, that there is much ‘murderous quackery’ abroad, even among regular-bred physicians. He takes ‘for granted that every half-educated physician’—and many such there are among us—‘who succeeds in getting a reputable share of practice, must have rid the world, rather prematurely, of some dozen or twenty individuals, at the least, in order to qualify himself for his profession.’

Now this assertion, strong as it is, was not made hastily. It came from a source sufficiently respectable to entitle it to consideration. And though the facts on which Pres. L. bases his conclusions are undoubtedly more numerous in the valley of the Mississippi than eastward of the mountains, yet even here I believe he is quite within the bounds

of strict truth. I believe that for every generation of medical men—extending through a term of forty years—we send out, in the United States, some five or six thousand, each of whom succeeds ‘in getting a reputable’ practice—not, of course, intentionally, but in his ignorance—by ridding the world of at least a dozen of its citizens.

This, I grant, is a serious charge; and it is not made without regret. It becomes necessary, however, in order to meet and prevent the evils to which it refers. For remember that if the corps of half-educated physicians of our country slay 60,000 citizens every 40 years, or 150,000 every century, or 1500 a year, it is highly probable that the army of those persons who, without being *so much* as half-educated, make, vend, or prescribe for the sick, destroy a much greater number. And then, again, remember one thing more—that there is a class of citizens who carry a still higher hand in the work of destruction, direct and indirect, than either of these: I mean uneducated mothers.

Let the reader reflect, for one moment, on this melancholy picture. Let her think of half a million* of individuals destroyed in the United States every century, at the hands of licensed and unlicensed ignorance and quackery. True, it is only one person a year in every 5000 inhabitants—some 16 or 18 in a city like Boston—but this is a destruction which is quite unnecessary. I suppose, however, my estimate is quite too low; and yet, even thus low, the results are, in the aggregate, not a little startling.

These, however, are by no means all, nor the worst, results of ignorance and quackery. It is not he that *dies* by

* That is, 150,000 by half-educated physicians, 150,000 by those who are not *so much* as half-educated, (or quacks,) and more than 150,000 by mothers themselves; amounting, of course, to from 450,000 to 500,000.

malpractice, alone, who suffers, or indeed, who suffers most; but he who *lives* under it. The sufferings of those who die are often limited to a few weeks, sometimes to a few days; while they who survive, under the hand of ignorant interference, are not only much more numerous than those who die, but the victims of more prolonged, not to say more intense sufferings. And, in the infliction of these prolonged sufferings, the mother, we may be sure, comes in for a pretty large share. Sometimes, moreover, she is a co-worker—a sort of companion in crime—with others. She could not dose continually with elixir, ipecacuanha wine, laudanum, worm-lozenges, calomel, picra, salts, rhubarb, cordials, pills, matchless sanatives, panaceas, and the mighty paraphernalia of modern quackery, if there was no one to make, vend or sell these two edged instruments.”

POISONING.

“Mr. Robert M. Thayer,” says the Boston Daily Mail, “of Braintree, in this state, died a few days since, and his physicians gave it as their opinion that his death was caused by a wound received while assisting in skinning a neighbor’s ox, which died of what is called the *black murrain*. Receiving a slight cut in his finger, with the knife used in the process of skinning the ox, the poison was thereby communicated to the system, which caused mortification and death.”

But there is a tale yet to be told. The flesh of the same ox, it is said, was sold to a sausage maker in Roxbury; but whether to manufacture into sausages, to fatten other animals *from which* to make the very precious commodity, or for some other purpose, remains to be told.

Or at least we are ignorant, entirely so, with regard to the facts.

Now it may be already known to most of our readers, that poisoning by the use of sausages is no uncommon thing. When made of blood and liver, as in some parts of Germany, they appear to develop a destructive poison—one which causes frequent death. It is stated by Christison, on the authority of several German writers, that between the years 1793 and 1827, no less than two hundred and thirty-four cases of this species of poisoning occurred in the kingdom of Wurtemberg, of which one hundred and ten proved fatal.

Although we know nothing of the Braintree case beyond what we have stated above, we do know that diseased animals—such as those who butcher them would not themselves eat—are often sold in every considerable market in our country. Hundreds and perhaps thousands of swine, sheep and cattle, to say nothing of poultry, which no farmer in the country would think of eating, but which are *good enough to sell*, find their way to the Boston market every year, and are devoured by our citizens.

How much to be desired is a state of human society in which every individual should truly love his neighbor as himself, and manifest this love, not merely at set times, or on particular occasions, but in all the relations and concerns of life. In such a state no person would be found selling to another person that which he was not willing to use himself. If an indifferent—we will not say poisonous—thing *must* be eaten or used, the true friend of man and God—the true lover of his neighbor—will prefer to eat it himself rather than permit his neighbor to eat it.

We are almost tired of noticing—still more of noting—the cases of poisoning which occur in these days. For scatter the light of science as much as we may, and ap-

peal to conscience as much as we will, it is not till the principles of the gospel of Christ can be made to take deeper hold than they yet often have on the hearts of his followers, that we can reasonably hope for any considerable improvement. However, enlighten we shall, or at least attempt to do it, whether the light is received or rejected. Of course we hope for the best in our efforts.

We wish to add, in this place, a case of poisoning by lead, though we have so often directed the attention of our readers to the dangers to which they are exposed from this article—especially in our volume for last year—that we do it with a good deal of reluctance. It is from a southern paper :

“ Recently a miller, near Mobile, for some purpose or other poured several pounds of melted lead into the eye of the runner stone. The lead becoming loose and working between the stones, was ground up with the corn. The meal which contained the lead was consumed on the plantation of Mr. James G. Lyon, and a number of his negroes were poisoned by it, some of whom died, while others were palsied and rendered altogether hopeless. It is said to be a common thing for millers to use lead in this way, and the misfortune here related ought to be a sufficient warning against it. A similar accident occurred lately in Europe.”

CHAPTER OF INTELLIGENCE.

Burgundy Pitch Plasters.—A young woman in Herkimer village, N. Y., who had suffered severely for some time from pain in her left side, and had tried almost all sorts of applications to no purpose, at length applied a plaster of Burgundy pitch. Upon the removal of this, one day, the point of a needle was discovered protruding through the skin, an inch and three quarters long. The needle was soon and easily extracted. From its appearance it must have been swallowed several months before; although the young woman was not conscious of swallowing it at all.

How wonderfully *drawing*, many will say, this Burgundy pitch plaster must have been! And nothing is more natural than such a conclusion, by those who know nothing of the powers of the human constitution. Neither this plaster nor any other can any more draw a needle out of the human body, than out of the body of a tree. It is nature that does the work, and not the plaster. She *pushes* out the needle, while the plaster or dressing which happens to be on at the time, gets the credit of *drawing* it out. All our modern quackery flourishes only because the public ignorance of the laws of health and life affords exactly the soil in which it loves to germinate and shoot forth.

Sensible Men not always Intelligent.—The following anecdote, related by Mr. Combe, is worthy of universal attention; but we particularly commend it to those who have the care of halls, churches, schools, factories and prisons. Mr. Combe was lecturing on Phrenology at the Masonic Temple in Boston, when the circumstance occurred to which he refers.

“A large stove had been lighted in the private room at the Masonic Temple adjoining the hall; and the coals had burned into a bright red heat just before I entered. I chanced to look at the construction of the stove, which was large, wide and open in front, and I could discover no aperture for allowing the smoke to escape. I asked my assistant, a young gentleman of Boston, if he could explain how it was disposed of. He turned a small iron projection, and instantly a damper revolved and presented an aperture for its escape. It appeared to me that this damper had been deliberately closed by a very *sensible* man, who had the charge of the Temple, after the fire had come to a red heat, under the notion that there was no longer any smoke, and that the use of this contrivance was to prevent the heat from escaping up the chimney. The fire was burning vividly, and pouring into the room streams of heated air, charged to the maximum with carbonic acid gas! Some portion of the bad health which is complained of in America arises from imperfect ventilation, and occasionally, perhaps, from such practices as this.”

Hot Coffee.—A daughter of Mr. Skillings, in Portland, two years and five months old, lately fell upon a pot of hot coffee, and was so badly scalded that she died the next day.—It is not long since a similar occurrence took place in Roxbury, but a few miles from this city. Those who use no hot coffee will of course escape danger from this quarter.

Children Burnt.—Among the blessings of cheap cotton goods, is the facility it affords for burning children to death. We seldom take up a paper which does not contain details of this sort. A late National Intelligencer says that two children in Washington, one of them *two*

years old and the other *one*, were lately so badly burned by having their garments take fire, in the absence of their mother, that one of them, if not indeed both, was not expected to survive long. When will security for life and health be valued as high as it ought to be ?

The Wine Question.—On this subject several papers among us, as well as several strong men, are beginning to speak out. Wine, 2000 years ago, was of two kinds, fermented and unfermented. There is no command in the Bible which requires us, the people of 1843, to receive a drop of fermented wine into our stomachs, while in health, for any purpose whatever. Show us such a command, says the Maine Temperance Gazette, and "*we have not another word to utter.*"

True Basis of Moral Reform.—We learn from the Oberlin Evangelist, that at the organization of a new Moral Reform Society in October last, at Warren, Trumbull County, Ohio, the following highly important resolution was passed unanimously :

"Resolved, that in view of the alarming state of degeneracy and the amount of disease and suffering in the community, we are called upon to use all proper means to enlighten our own minds and the minds of others in regard to the laws of life and health—that we will discountenance such modes of dress and living as tend directly to degenerate and render the human family physically, mentally and morally debilitated—and that we will use all lawful means to promote the cause of physiological reform, considering this essential to the ultimate success of Moral Reform."

Statistics of Impurity.—One physician in the most healthy and moral part of this commonwealth, has pre-

scribed for 30 victims of impurity, in two years ; and these only of one sex. Taking this and other facts within our reach as data, it is greatly to be feared that there are at this moment, in the United States, at least 250,000 of these sufferers—saying nothing of a much larger number on the high road to suffering, but who, as yet, do not believe the statement of the Bible, that there is a way that seems pleasant but the end thereof is death.

Graham's Quarterly Journal.—The second number of this curious work has at last made its appearance. It is made a periodical to save expense in its circulation, and was undoubtedly designed to be regularly issued, every three months. Yet owing to difficulties under which the author has labored, it has required more than eighteen months to bring out two numbers ; and may require as many more to bring out the other two. But we have the repeated and strong assurance of the author that it shall appear at some time or other.

Now this work, though a journal, is well worthy of being called, as it is on the cover, "the Philosophy of Sacred History." Not only does it develope the true doctrine—rather authority—of the Bible in regard to Flesh Eating and Wine Drinking, but it presents rules of interpretation or principles which throw light on many other important points and disputed questions. Without saying or supposing it is a perfect work, we do say that it deserves a wider circulation than it is likely to have. Every theologian, every friend of temperance, law or purity, ought to receive and examine it. How strange it is that the fooleries of the day sell readily by thousands, while a work which, at the worst, is worth millions of them, can hardly be sold by hundreds !

LIBRARY OF HEALTH.

CITY AND COUNTRY.

It is, we believe, generally admitted that, were it not for the intellectual and social advantages which are afforded by congregating thickly, the city would be at least a moral evil—perhaps a physical one. It has indeed been asserted by a few philosophers, that with all their advantages, cities are, even now, great evils—"great sores," as they have expressed it—especially large cities.

Yet in the face of these fears—which, we suspect, have been, after all, but superficial—mankind have gone on, in all ages and climes, to build large cities and towns, as fast as they could, and to crowd into them. As they generally enter them, however, in comparative health of body and mind, they may perhaps pass through life without much deterioration of physical character. Not so, however, with the generation that succeeds them; and it is still worse with the third. With this third generation, the race—all of it which is worth preserving, but the name—usually perishes, so far as each family is concerned; and is succeeded by another, which is derived, in the same way, from the more healthy country behind it.

And yet the world goes on. Men are not destroyed entirely. The country contributes to the never failing and never satisfied demand of the monster city; and

though reacted upon and injured by the latter, is ever the source of a comparatively pure and healthful supply.

Our purpose in the present article, however, is not to declaim, but to convince. We wish, by placing, side by side, the respective advantages of city and country, to have the subject viewed in its true light. We wish also to confine ourselves to a comparison of the advantages and disadvantages of city and country, physically.

That the city has its advantages, even of a physical kind, will not be denied. Its compact form, and the amount of fuel consumed in it, render its atmosphere more tolerable in an inclement season; and possibly in the same proportion, at the same season, more healthy. *Possibly*, we say; for on this point we have some doubts.

In some situations, too, during the hot season, the air of cities is, in a few respects, peculiarly salubrious. We refer to those maritime places where there is an alternation of land and sea breezes, to ventilate, daily, the hot, stagnant streets, and shops, and rooms, and cellars.

The city *might* also be particularly favorable to cleanliness. Most cities have more or fewer bathing establishments, to which the children of wealth, at least, if not those of poverty, might have access; and were all classes of citizens duly convinced of the importance of using them, they might be multiplied so as to be afforded much cheaper than they now are. The authorities of cities ought, moreover, to establish numerous baths at the public expense; and would do so, most undoubtedly, were they but half informed in regard to their importance. We speak, of course, principally, of warm bathing; for it would be idle to attempt to show that city advantages for cold bathing are superior to country ones, except in so far as the former is contiguous to a much greater extent of shore, along some river, sea or bay.

The tendency of habitual cheerfulness to health is usually overlooked. Few things, in our own view, are of more importance. Yet cities are certainly favorable, highly so, to the cultivation of this habit—we mean, in so far as it depends on the external influences of social life and social circumstances. The busy appearance of the town and city quickens our pace, cheers our spirits, enlivens, if it does not *excite* the brain and nervous system, and renders melancholy far more difficult, other things being equal, and general cheerfulness far more permanent than in the country.

A due cultivation of the intellectual powers is unquestionably conducive to health and longevity. Want of due opportunities for this cultivation is a great drawback upon the felicity, and even the healthful energy, of the people of our country towns. The physical part of man is more fully developed in the country than elsewhere; and perhaps, in some instances, the moral nature; but the intellect is liable to be contracted—stinted—dwarfed. Whereas in the city, full scope is given—that is, comparatively so—to the intellect. Nay, more; in many of our cities, the cultivation of this part of our nature is carried quite in advance of the physical powers; and thus serves more effectually to subject both to the animal propensities. That it need not be so, we admit; and on this ground, and in this respect it is, that we are contending for the superiority of city advantages. That mental precocity which renders the young of both sexes prematurely men and women, and sometimes premature in vice and crime, might be turned into quite another channel, and be made, in some good degree, at least, to advance man and to glorify God.

The point, however, in which the city is chiefly superior, in its tendencies on health, to the country, is in reference to the condition of the aged. In the country, the old

man is almost a solitary. His companions in early life have deserted him, one by one, and he stands nearly alone; and the desertions of every year are rendering him more so. If he meets a former companion, it is but just often enough to recapitulate his losses, and dwell for a few moments on the dark, waning, transitory side of things. And not only do the friends of their own age desert them by death, but they are deserted by the living—even by their own children. Busied here and there, in the pursuits of pleasure, wealth or ambition, the latter seldom find time, or seem to find it, to associate with them, or cheer their declining years. Even the friends of the gospel, too often unmindful of the spirit of him who from the cross said to an *adopted* son (nor said it in vain) “Behold thy mother”—even these, we say, too often prove recreant to the cause which they have professedly espoused, and see not and regard not their aged parents. Children though they already are, *without* adoption, they do not come up to the spirit of the beloved apostle, where motives of the same kind did not exist.

Nothing adds more to the health of the old, or prolongs more that activity of body and mind, which is so highly desirable in them, than the society of somebody, especially the young. Nothing, on the contrary, renders them more useless to the world—dead before their time—than neglect, solitude and inaction. They but half live while they do live, who give up themselves and are given up by others, as good for nothing; and whose *only* employment is to make preparation—mere passive preparation, we mean—to die.

But this is not the case in city life. There, ever and anon—perhaps at every corner—the aged man meets his compeers. If deserted by his own children, he at least sees other young people. And if neglected by the young, he can frequent the society of the old, which is

better than nothing to him.* In a large city, the aggregate number of the latter is always considerable.

There is, moreover, a busy, moving character to a city population, which prevents an old man, if nothing were said to him, from becoming an old man as fast as otherwise he would. If the world does not appear to him actually to advance, it yet *moves*. If he deems its motion retrograde, even that is better than a cessation of all motion.

We are not sure, by any means, that taking the world of mankind as they now are, trained from infancy to seek their happiness in external things, they would not be healthier in their more advanced years, by removing to the city, and there spending their remaining years. There they would at least see somebody ; and the sight and society of strangers would be better than solitude. "*Anything* rather than *nothing*," their unsatisfied nature might prompt them to say ; and living strangers would be better to them, and more promotive of their health and longevity, than dead friends.

The healthful advantages of social opportunities and social enjoyments to the young and middle aged, which are afforded in cities, may be thought of by some as worthy of coming into the estimate. But if these are greater in the city than in the country, they also seem to be more hollow and more insecure.

But if the city has, to a certain extent, its advantages over the country, in a physical point of view ; if its atmosphere is a little milder in winter, and, in a few situations,

* The reason why the aged seem to prefer the society of the young, seems to grow out of the constitution of things, as God has established it. The young love to hear the stories of the past ; there must therefore be somebody to present to them the past. The old must be constituted for this purpose ; and they are so. Thus the old are employed, and the young gain wisdom and experience.

a little more comfortable in summer ; if its opportunities for the development and cultivation of intellect are superior, or might be so ; and if, above all, it is more favorable to the health and happiness of the aged ; still the advantages of the country over the city are a thousand times more numerous and more important.

In the first place, the air of the country is, as a general rule, far better than that of the city. If its temperature is at times more severe, and at others more scorching, still it is usually more free and more healthy. The mild breezes, designed to fan the atmosphere, and minister in ways innumerable to its salubrity, are unbroken by blocks of houses, or huge walls of wood, brick or stone. The earth is covered, for a part of the year, with nature's own green. There are, indeed, no pavements, or sidewalks, or platforms, or regular built streets or alleys ; but there is almost everywhere what is better—a carpet for our feet ; one, too, of nature's own fabrication, unparalleled in excellence or beauty.

We have admitted that the city is a little more comfortable, as to temperature, and that it may even be a little more favorable to health in the winter, than the country. And yet we have our doubts about this. Are we sure, after all, that it is more favorable to health ? As to temperature, one thing is quite certain. The inhabitants of the city feel the cold, as a general fact, far more sensibly than those of the country. But whoever feels the cold more sensibly than others, feels the intensity of the heat more sensibly, for the same reason.

Many people are mistaken in regard to this matter of which we are speaking—the power to endure the extremes of heat and cold. There may be certain states of health or disease, and even certain modifications of constitution, which form exceptions to the general rule ; but they cannot be numerous. The general rule is, that the more

vigorous health we enjoy, the better can we resist both extremes, those of heat and of cold ; and that whatever debilitates us, unfits us alike to endure either the one or the other.

There is also another general rule, which is, that the more we are habituated to these extremes, the better we can endure them ; provided always, that we have at no time become so far over-heated or over-chilled as to have impaired our constitutional vigor. On this principle or general rule is it, that we explain how males, who are employed out of doors, usually suffer far less from extremes of temperature than females ; and sedentary people and tradesmen far more than laborers. And it is for similar reasons that the country people endure the extremes of heat and cold better ; and though more exposed to them, actually suffer less, than city people.

This comparison of comfort might not be necessary, at the present time, if nothing else were aimed at than a comparison of *mere* comfort. But the same circumstances which enable us better to endure extremes of temperature, enable us also better to resist that troublesome disease—the parent also of a thousand others—familiarily known by the name of a cold. In short, the people of the country, besides being more comfortable, even on the higher and more mountainous regions of our own New England, than our city people, are at the same time more free, other things being equal, from colds ; and this, too, though they are far less warmly clad.

We have alluded to the green covering with which the surface of the earth—and we might have added, too, the trees and shrubs—is covered, in the country, during a part of the year, as if this were healthful. And it no doubt is so. The scripture assures us that the light of the body is the eye ; and we might almost say, too—without being able, perhaps, to explain the fact in every

respect—that the *health* of the body is the eye. Certain it is that the sympathy of the eye with the general condition of the brain and nervous system, and also with the condition of the stomach, *that other centre of the human frame*, is exceedingly powerful. We could illustrate this position by facts almost innumerable; but our limits will not permit. Let it suffice to say, that for some reason or other, perhaps for many, the health of the individual whose eyes rest daily on the verdure and beauty of the country, during the season of vegetation, will be far more perfect, other things being equal, than that of the less fortunate individual whose eyes, during the same season, are compelled to rest from morning till night, from day to day, and from month to month, on naked streets, and houses, and walls.

This inference is not made from the fact that we feel much better—sometimes incomparably better—for taking a walk now and then from our place of imprisonment—the city—into the country. This might be justly attributed, in part, at least, to other causes. Nor is it made without remembering our perpetual liability to give the eye credit for what, in part, comes to us through other senses—the nose, ears, &c. The music of the country—nature's own—falls not upon the ears in vain; nor is it confined to the beautiful month of MAY. The same might be said of the aroma of flowers. We have no more doubt that the smell of flowers, and even of vegetation in general, conduces greatly to health, than we have that two and two make four. A diseased patient—say with asthma—could not be thrown into the most extreme torture by inhaling the perfumes of certain flowers,* if the in-

* One asthmatic patient whom we knew could not inhale an atmosphere impregnated strongly with the aroma of wheat blossoms, without the extremest suffering.

fluence of these objects on our nervous systems was not much more powerful than is usually supposed. And yet, after all these concessions, we still say that the combined influence of these various causes on the health, powerful as they may be, is nothing to the influence of the organ of vision.

In point of purity, the superiority of the country air will not, in all probability, be doubted. For though there may be found, here and there, in the country, stagnant marshes, and pools, and wells, and cisterns, and depositories of filthy or decaying substances—to say nothing of occasional instances where, from the contiguity of well, sty, vault, &c., there are perpetual sources of impurity in full operation—and though many a cellar, at times, is suffered to contain half putrid meat, cabbages, potatoes, turnips, apples, cider, fleeces of wool—aye, and substances, too, sometimes, and under the management of some families, which it is inexpedient to name in this connection; yet after all, the country air is, and forever must be, from the very nature of the case, far preferable, as a general fact, to that of the crowded town or city.*

If we breathe over and over again, even in the country, the atmospheric air; if we sometimes inhale other gases there, and the numerous—and some of them poisonous—other exhalations of living animal bodies, still

* “The immense importance,” says the Journal of the Franklin Institute for November, 1836, “of an ample supply of good water and the free circulation of pure air to the inhabitants of cities and towns, is now universally acknowledged. During the prevalence of an epidemic, it is almost the dictate of *instinctive* wisdom to flee from the infected region, and seek for safety in places where the air and water are uncontaminated.” And who does not know that there is often no effectual cure for the cholera infantum of infancy and childhood, but the country air; and that when removed into it, and left to that and nature, they almost universally recover; and that, too, without a particle of medicine?

we do it ten times more in the crowded city. Here, amid fifty or a hundred thousand, or it may be a million pairs of lungs, and as large a number of fires, stoves, lamps or candles, all combining to contaminate the air with carbonic acid gas, or something else not much more wholesome, it is scarcely possible, even in the streets, and with a brisk circulation, to get a single breath of atmospheric air perfectly pure, from the beginning of the year to the end of it. Whereas, in the country, and to those who will avail themselves of it, pure air, for a part of the day, at least, is to be had in the most healthful abundance.

This is an important item in the comparison of city and country. The difference between inhaling pure air, and consequently, having a pure and healthful fluid circulating in our bodies (for without pure air, this cannot be) for twelve hours in twenty-four, even if we suffer from atmospheric impurity in our rooms, especially our sleeping rooms, the rest of the time—the difference, we say, between this and breathing impure air the whole time, as is unavoidable in the dense city, is immense.

“Be it remembered,” says Mr. Thackrah, a distinguished surgeon and author at Leeds, England, “that man subsists more on air than on his meat and drink.” And is it not so? Are we not *digesting* air, good or bad, continually? Do we not inhale health or disease, or the elements of health or disease, 25,000 or 30,000 times in twenty-four hours, while we receive the elements of life and death into our stomachs but about three times? And is there not, then, a wide difference between breathing a pure atmosphere twelve hours a day, and not breathing it at all?

The water of our country is, in a few instances only, as favorable to health as it might be. We speak now of well water; because, after all, this is the water principally

used. The wells are not cleaned often enough ; they are not protected as they ought to be about their mouths ; they are too contiguous, as we have already hinted, to sources of impurity ; and the water, in dry seasons, sometimes stagnates. Still, with all these drawbacks upon the purity and excellence of country water, it is as nectar, in comparison with the water of the wells in cities. We surely need not attempt to prove what we affirm, to a community which has read, or at least had an opportunity of reading, the reports of physicians, especially of Dr. C. T. Jackson,* on the water of Boston. For if there is scarcely a well in that city whose water is not so impregnated with animal, vegetable or mineral impurities, as to be unfit for man or beast, how is it in our other cities, where less attention is paid to this subject—to the location, cleanliness, &c. of these cavities—than in Boston ?

The food of the city is, in general, greatly inferior to that of the country. In the latter, the soils are not so much forced by hot and recent manures, and are not so fruitful in poisonous or acrid grasses, which find their way into the hay-mow to poison the milk of winter, nor in acrid vegetables for our tables. The vegetables and fruits used in the country are in a much more healthy and perfect state than those of the city, and so are the meats.

The more highly fattened animals—that is, the most diseased ones—go to market, leaving the leaner and more healthy ones, as a general fact, for home consumption. Above all, if an animal abounds with tubercles or ulcers, not only of the liver but of other parts, or is afflicted with any other known disease, or is in any way defective,

* A valuable treatise on this subject was prepared by Dr. J. for the Scientific Tracts, issued by the publisher of the Library of Health.

it is sold, and the town or city often have the full benefit. Many a drove of fat swine—to say nothing of individual cases of feeding—from the Green Mountains and elsewhere, have found their way to the Boston market, and been eagerly devoured, whose flesh was made of sheep that had died of the disease called the rot.

The vegetables, as has been already intimated, which are raised for home consumption, in the country, are usually raised in a way which approximates, at least, to nature's own. But those which come to the city market, especially from the adjoining towns, are frequently raised by means of hot, recent manures, in which case they are not only less healthy, but often positively filthy. It is impossible for the squashes, and cucumbers and melons which are forced out suddenly into the world by the contents of the sty or the vault, not to contain the juices of their contents, more or less. Our domestic animals will not eat the grass which is forced up by recent manures, till they are compelled by hunger—we had almost said by starvation. Have people often thought why? But is it not obvious? And shall we refuse to take a hint?

This, however, is not all. Vegetables and fruits are sent to market, for the most part, in an imperfect state. During summer and autumn, nearly the whole amount of vegetables and fruits consumed in cities is unripe, or otherwise imperfect. It consists of green peas, green cucumbers, green squashes, green currants, green beans, green apples, green pears, green strawberries, green corn, unripe potatoes, beets, turnips, &c. In short, there is hardly a single thing in a perfect state. We have said nothing of the celery, greens, and foreign fruits—the latter of which are of course imperfect, as they cannot be brought here unless they are picked when they are green—nor of the half putrid substances which abound. Most of the few fruits which are brought ripe to the

market, are not bought and eaten till they are beginning to decay; and eggs and several other articles in much demand, are usually semi-putrid, and therefore more or less poisonous, before they are eaten.

The country has the advantage of the city in being without bakers. It is not so much that professional bakers *raise* their bread, by fermentation, till they deprive it of nearly all its sweetness, as that they furnish it to the citizens always hot. The loss of nutriment by over-rising is an evil, but the latter is a greater one. The country people eat hot bread, indeed, and other hot food, quite too much of it; but not constantly, as the city people do.

Probably the danger of dosing and drugging is not quite so great in the country as in the city; though even in the country, most families have a small apothecary shop in their closets for food, and are ever and anon found dosing—a most terrible evil, which we have already attempted fully to expose in other numbers.

One of the most fruitful sources of disease, in our day, is the confectionary shop. This pest of society, and of the world, is seldom found in country towns. Not that its contents do not occasionally reach the country, for they do so. But the amount used by 50,000 of the population of a large city, is ten times greater—perhaps twenty—than the amount used by the same number of the inhabitants of the country. And though people are not usually made immediately sick by it, yet there can be no doubt of its ruinous tendency.

Where so many causes of disease are perpetually in operation as there are in the city, it is not always easy to determine how much injury is done by one, or how much by another. Two things we do know, however. We know that the city deteriorates, and would perish in a little time, were it not recruited from the country; and

we also know that many things in frequent and abundant use in the city—of which confectionary is one—are destructive to the human constitution.

There is more going abroad evenings in the city than in the country; and the circumstances attendant on night assemblies are more unfavorable to health. The religious meetings, even, are frequently more crowded; the air is more impure, and the temperature of the rooms higher; and there is consequently more danger of taking cold on going out. The same is still more strikingly true of social meetings, and especially of fashionable parties; and of meetings for literary improvement, as lyceums, literary societies, &c.

That refectories—many of them, at least—oyster houses, theatres, gambling houses, and other places of still less reputation, are destructive both to morals and health, and that the country has the advantage of the city in these respects, is well known. Vice is always unfavorable to health; and inasmuch as the city affords abundant facilities for vice, it is unfavorable to health in the same proportion.

Nothing, perhaps, of city life, is more destructive to morals and health both, than fashionable parties, and late suppers. Neither of these, as a general fact, is known in the country. We mean by this, that they are not known in the form and manner in which they exist in the city.

The custom of going out to attend a party which does not begin till eight or nine o'clock in the evening—of eating ice cream and confectionary an hour or two while there—of winding up the scene with wine and oysters, and of staying till eleven, twelve or one o'clock, is not known in the country. Nor is the custom known there, after having taken the third meal regularly at six o'clock, of going into the closet at nine, and eating heartily of

ham and eggs, or other food equally indigestible. The usual third meal in the country is fully acknowledged to be too heavy, but it is taken so early as to be comparatively uninjurious.

The temptations to early rising, in the country, are greater than in the city. In fact, it is not to be expected that those who sit up till midnight can rise at four or six. Sleep must be had. Nature will not and ought not to be cheated out of her rights. We may say, however, of those who go to bed early, that art and nature—the music of the birds, the sound of workmen and implements, and the voice of our fellows—unite to rouse them earlier than in the crowded city.

It is hardly necessary to say that the employments of the country are more healthful than those of the city. Not only is agriculture more favorable to health than any other employment, but even the more active mechanical occupations are carried on under circumstances more favorable to health than in the shops of the city, inasmuch as the air is purer, and the food and drink and temperature more wholesome.

Tailors, shoemakers, saddlers, and other mechanics, who are pretty closely confined within doors, look sadly enough in the country. But they are better off there than in the city; for when they get out, they have their freedom and free air, and that which is pure, too; while in the city, they only go out of one place of impurity into another which is a little less impure.

But if adults are happier in country than in city, how much more favorable is the country to children! As the habits of the former are formed in the country, they seem to suffer less than we should suppose by living in the city. Still they are sufferers in the end. They come to their old age sooner; and though life is not so much shortened by it, absolutely, and though their old age is

more sprightly and cheerful, and more easily borne, yet it is very perceptibly longer.

And herein is a very common error, which it is desirable at once to endeavor to correct. In making our comparisons of city and country, or of one country with another, we are apt to leave out of the account the amazing difference in the length of old age. Thus of two men who come to fourscore, the old age of the one, from some cause or other, perhaps from various causes, will be ten years longer than that of the other.

Perhaps he is rendered precocious by study. His mind comes to manhood, while in size he is yet a stripling. Or perhaps he is taught unnatural or vicious habits, which hasten prematurely his physical manhood. In either case—and both cases are very common in the city—old age will come on at least ten years earlier than under other and better circumstances. He will be an old man at fifty, while his neighbor will not till sixty; and while the latter has only twenty years of old age, he will have thirty.

Now country air and country privileges generally—the want of proper society and proper cheerfulness excepted—are very apt to carry along our youth quite into manhood, and to extend our manhood quite into old age. The truly temperate and happy in the country, were the country what it should be, might pass on nearly to seventy, and sometimes beyond it, or perhaps like Franklin to eighty, before real old age would come on; thus reducing this period of life, with its infirmities and decrepitude, almost to nothing.

We were about to compare the children of city and country with each other. This will show, in a striking manner, the advantages of the country in regard to health.

In passing through the busy streets of a city, a person who has for the first time visited it, sees but little differ-

ence in the appearance of the children from those of the country. Active, as they usually are in the streets, perhaps running and glowing with exercise, they appear quite as active and sprightly, and though a little more slender, about as healthy, as those of the country. But they are not in this way distinctly seen, and a fair comparison is not made.

Let him, however, enter a school. We do not mean, now, one of those dirty, sickly places which are found here and there, containing in a small and unhealthy under-ground room or cellar, or amid filthy shops and vaults, from 70 to 100 miserable wretches. This would not be a fair sample. Let him enter one of the more respectable primary schools of New York or Boston, and survey the general aspect of the pupils, and attempt, as well as he can, to compare them with children of the same ages in the country.

The difference will be very great indeed. It will not always consist, however, in increased paleness, or a more slender appearance; but rather in something which is not easily described. Perhaps it is, in fact, in the appearance of the eye, and the general vacuity of expression in the features. In any event, the difference is immense; and he will not be surprised to learn from intelligent physicians, that a large proportion of them are either already scrofulous, or predisposed to scrofula or some other disease.

The statement of medical men to which we allude, is sustained by what are called *post mortem* examinations; that is, the examination of bodies after death. These show that the vast majority of city children, even at a very early age, are constitutionally diseased. Some have one complaint, some another; but a large proportion are more or less scrofulous or consumptive. The cause of this is believed to be the city character and city habits

of both parents ; but especially of the mother. And 'it was no doubt in this view, that a very intelligent physician of Boston was heard to assert, not many months ago, that not one individual in ten in that city, who claims the name of mother, is fitted to nourish children with safety to their future health.

Thus, then, if we compare city and country fairly, we see in almost every point of view, the decided advantages of the latter over the former ; and if in instituting a comparison, we carry our investigation far enough, we shall probably cease to wonder, that from the days of Nineveh and Babylon, to those of New York and Philadelphia and Boston, cities have been, in the language of Dr. Gregory of Edinburgh, " the graves of the human species."

A state of society might be named, which is perfectly practicable, and yet far more favorable to health and longevity of body and mind both, than either city or country now is. We allude to a state in which the country should be settled as thickly as it could be without interference with the purity of the air, the water, the habits, or the morals. In such a state every one would have just land enough for agricultural and horticultural purposes ; there would be just mechanics, and manufacturers, and traders, and literary people enough ; and the purposes of education, improvement, and religion, could be in the best manner accomplished. It is, in one word, the exact condition of society to which the spirit of christianity, were all its laws duly obeyed, would lead us ; and which would render the world a heaven begun below.

We talk about healthy and unhealthy climates and locations ; and there is in this respect a very great difference, undoubtedly. Yet almost any soil or climate is comparatively good and healthy, *did man observe all the Creator's laws respecting it and himself.* Those laws do,

not allow of dense villages, or very large cities; nor do they encourage much more the other extreme—a very sparse population. Mankind are prone to extremes, in this matter, as well as in almost everything else; and it happens that the truth in this matter, as well as elsewhere, lies in a medium between the two extremes—a medium betwixt city and country. The city—the large or crowded city, we mean—is the worse evil of the two, by far; and is that extreme of the two which must first be assailed, in our attempts to remove that error of the social system to which, in this article, we have alluded.

We expect the time will ultimately arrive, when large cities will only be known to the world through the medium of history. This change of things we would hope to aid in effecting. It must, however, from the nature of the case, be a gradual change—very slow in its progress. The golden days of its completion we shall not, of course, live to see. We shall indeed see them, but not now; we shall behold them, but not nigh. We shall only see them from the Eternal Hills, when these hills on which we now stand shall have ceased to support us—when the world, having waxed older in sin than it now is, by some thousands of years, may have learned more effectually than they now have, that great cities are great curses.

That cities are susceptible of very great improvement is most undoubtedly true, as has been admirably shown by Dr. Dick, in his “Mental Illumination and Moral Improvement of Mankind.” But are they likely to be so? The conditions which he annexes to his plan for reform, would defeat the very purposes for which they are now established.

Still something may be done. More Commons or squares, like those of Boston, Philadelphia and New Haven—to serve as so many pairs of lungs for the renovation of the air—and more gardens for the same purpose,

and for other purposes of health and exercise, would prove the means of great good. So would a supply of pure water—always, we believe, within the reach of every city, would the citizens subject themselves to the necessary expense. Besides, far more attention might be given, as we have already said, to the cleansing and ventilating of all sorts of buildings and apartments, as well as to cleanliness and purity of person. Great efforts are now making for improving the health of London, and of several other European cities; and is there less necessity for attention to this subject in our own country, simply because our cities are not, as yet, quite so large? Shall we go on to let things remain where they are, till we are compelled, by long and severe scourging, as London has been, to do what we ought to do, by way of preventing the necessity of such scourging?

We must be allowed to repeat the idea—elsewhere asserted—that cities are to the country which surrounds them, what the heart is to the living animal body; and by re-asserting the plain practical inference, that if the heart is corrupt, it can hardly be expected to send out to the rest of the system anything but the elements of corruption, disease and death.

NOTE.—We have alluded, in the preceding remarks, to the excellent essay of Dr. JACKSON, on Water; but for fear some of our readers should omit to examine it, we have concluded to extract from it a few paragraphs relating to the water of Boston, which we believe will be received with as much interest by our country readers as by those of the city.

“Many persons are satisfied with the present supply of water, and say that their wells are pure enough. For an answer to this assertion, look at the report of Mr. Leices-

ter, contained in Col. Baldwin's excellent report. There it is stated that of *2700 wells in the city of Boston, but 7 furnish water sufficiently pure for washing!* This is not merely Mr. Leicester's opinion; it is the vote of the citizens themselves, who answered his inquiries.

“The physicians of Boston have unanimously declared, in their petition to the city authorities, that, in their opinion, a supply of pure water was urgently called for by the wants of our citizens, and that many diseases were totally unmanageable, while their patients were obliged to drink the impure well water of the city. Many of our most eminent physicians believe that the common disorder of the digestive organs called dyspepsia, arises chiefly from the use of impure water.”

“It is essential to the health of man, that he should be supplied with pure and wholesome water, free from all deleterious salts and other foreign matter of an injurious character. Salt water will not quench thirst nor support life. A minute and almost insensible proportion of common salt may not render the water absolutely injurious, but larger portions of this matter combined with many other deleterious salts, may render the water altogether unfit for use; and the health of those who drink it will, if not immediately, at least in the course of time, become undermined and destroyed. Some diseases are produced by the use of impure water, which require the most dangerous of surgical operations for their cure. Deformities of an hereditary nature are thus frequently induced, which give a loathsome and disgusting form to a whole community of people.”

“It is evident that the health of a whole community may be so affected by impurities in water drank by them, as to give a peculiar morbid expression to their countenances, which causes the observant eye of a traveller to remark it, while he in vain endeavors to account for the phenomenon.

“Who has not remarked the expression common in some of our cities, as in New York and Boston, which is called a ‘care-worn and anxious expression?’ This expression, I will venture to assert, is not so much the result of ‘too much care,’ as it is of abdominal disease, produced by the habitual and continued use of impure and unwholesome water, which has fixed upon us this morbid stamp. I do not know that the people of the cities in question are subject to more care than those in other districts, but I do know that they use every day, in many forms, a variety of noxious ingredients, which they pump up from their wells, dissolved in the water, and which enters into every form of food and drink they use in their houses.

“Water, in percolating through the soil, dissolves every thing soluble which it meets in its course, and the finest filter can never separate them from it. When the soil is everywhere filled with the most abominable filth, and the water is continually passing through it, and running as it infallibly must into our springs and wells, it is evident that the sources of impurity are sufficiently abundant to account for the presence of such as exist abundantly in the well water of this city.”

“I have made several analyses of Boston well water, in order to ascertain whether this opinion is founded on sufficient evidence. Some specimens have given as much as three per cent. of foreign matter, consisting of putrescent animal and vegetable substances, and saline matters, such as muriate of lime, common salt, &c.”

“How disgusting an effect would be produced, should we place before the eyes of the reader examples of the most filthy water used in Boston, I cannot say. One specimen which I analyzed, and which gave three per cent. of animal and vegetable putrescent matter, evidently owed these impurities to the public sewers and drains; and

strange as it may appear, it was at one time sought after as a mineral water, and was publicly sold in Hawkins Street, about sixteen years ago. It was then believed that water having such a remarkably fœtid odor and nauseous taste, could not be any other than a sulphur spring; and consequently it was thought to be medicinal. How many cures were effected by its virtues is not related, but its medicinal powers vanished with the discovery that the spring arose from a neighboring drain, and that the odor was no other than that arising from the putrefaction of vegetable and animal matters.

“The well water of Boston and its vicinity is frequently charged with carbonic acid gas in solution; and in such cases, where lead suction pipes are used to draw the water from the wells to the pumps, the lead is found to be rapidly corroded, and carbonate of lead is formed, a portion of which is dissolved by the carbonic acid and water. I have seen several instances where this effect has been produced, and the pipes were destroyed in the course of two or three years, having numerous perforations through them, while the interior portion of the pipe was encrusted with carbonate of lead and carbonate of lime—the latter having been deposited by the water, as it lost its carbonic acid gas.

“Most people know that carbonate of lead is a dangerous poison, and one which is very peculiar in its action, accumulating in the system until it produces one of the most painful and dangerous of diseases—the painter’s colic—followed, not unfrequently, by paralysis of the muscles of the body. How many of the anomalous symptoms observed by physicians may be attributed to such an origin, I am unable to say; but if their attention should be called to this subject, I have no doubt that water poisoned by lead will not unfrequently be found a cause of disease, in cases where it is not at present suspected. In one in-

stance, I know that many, if not all the members of a family suffered from this cause ; and the mystery was unravelled by a chemical examination of the well water and the state of the suction pipe, which was found to be perforated with innumerable holes, while its interior was coated with the carbonate of lead produced. Whenever the water of a well is found to contain carbonic acid gas, pipes of pure block tin may be substituted for those of lead.

“ The water of Boston is continually deteriorating in purity, and the time will soon arrive when it will become intolerable, owing to the increased sources of filth produced by new buildings, drains, vaults, &c.”

CHEAP AND WHOLESOME SUSTENANCE.

It was remarked, not long since, by a physician of eminence in this state, that the discovery of Indian corn and potatoes, along with the discovery of this continent, had done more to promote the health and longevity of mankind, in both hemispheres, than any other events or discoveries which could be named in the history of our race, for several hundred years past.

The remark was striking, and is not without truth. Not only do Indian corn and potatoes now form a very wholesome part of the diet of most civilized nations in Europe and America, but they form nearly the whole diet of several nations or tribes. The Irish—some classes of them, at least—live almost wholly on potatoes ; the Italians, in the valley of the Ticin, wholly on corn. Nor is there any evidence that they are losers by this mode of living. The people of the valley of the Ticin, in

Italy, and the Irish peasants, where they are temperate and obedient to the laws of life in other respects, are almost without a parallel for health, vigor and activity of body; and considering their education and advantages, they have good minds.

Let us look, now, at the comparative cheapness of these two articles of food. Good corn, of the kinds now raised with us, weighs about 60 lbs. to the bushel, and seldom costs over \$1.20 a bushel, or two cents a pound. At any rate, it is safe to estimate the average value of corn, whether raised at the north or south, at two cents a pound.

Now a pound of corn, whether it is simply boiled or made into hommony, Johnny cake or hasty pudding, or mixed with other meal to make bread, (in all of which forms, if we except perhaps the first, it is quite a favorite among us,) will furnish, when cooked, from two and a half to three and a half pounds of food. Will any one say that this is not an ample supply to the most efficient laborer for a day? There are 100,000,000 efficient adult laborers of Europe, Asia and Africa, who do not get so large rations as these.

But have we estimated the expense of this food? It is \$7.30 a year to the individual; or \$25.55 to a family of five persons, allowing the demands of each family to be equal to those of three and a half adults. This allowance of something like eleven or twelve pounds of sweet and wholesome food a day to each family—men, women and children—is rather large. It is believed to be more than they ought to consume.

But what is the cost of potatoes? Their average expense may be put at one cent a pound. Allowing five pounds a day to the adult individual—and Dr. Loudon of Great Britain allows but four pounds—the expense is only \$18.25 a year; or for a family, only \$63.87½.

We have, however, placed both amount and price very high. The real expense to a family, in the country at least, would not average more than \$52; or one dollar a week.

Were we to live on equal parts of these two prime articles—for we will not suppose anybody among us would confine himself exclusively to either—the yearly expense to an individual would be \$12.77, or less than a quarter of a dollar a week; and to a family, \$44.66, or less than a dollar a week.

Need families among us suffer, when they can be healthfully and happily sustained—we mean so far as food and drink are concerned, for drink ought to cost nothing—for less than a dollar a week? Yet no family of the size we have mentioned, we venture to say, needs to expend more. Of course, we do not here include the labor of cookery.

If it should be said that though the best purposes of health might be answered by these articles, yet there are few who would limit themselves to such a narrow variety, our reply is, that they need not. The average expense of rye, buckwheat, apples and turnips, is not greater than that of corn and potatoes. Wheat, rice and pulse are a little dearer, though they are also, at the same time, much more nutritious. The animal and vegeto-animal products are dearer still; though milk is not much dearer, perhaps, than wheat, rice and pulse.

But take even a suitable combination and suitable amount of all these articles—wheat, corn, rye, rice, beans, peas, buckwheat, potatoes, turnips, apples and milk—and the average expense, to each individual, would not exceed fifty cents a week; and to each family of five persons, one dollar and seventy-five cents. It is true, we make no allowance here for the “trimmings,” as we might call them—molasses, sugar, butter and other condiments—

because we believe food from corn and potatoes to be rich and sweet enough without them.

We have barely commenced our remarks on an important subject, hoping to be able to prosecute it farther at some future time. No one will deny, in any event, that corn and potatoes are prominent and important articles of human sustenance, and exceedingly wholesome. At present, however, we will only add the following estimate from Dr. Loudon, for the benefit of those who wish to reflect a little, and make their own inferences. The extract is from a highly respectable London medical journal.

“Dr. Loudon finds that each arable acre,” (in Great Britain,) “yielding an average crop of potatoes, will produce 30 tons, or 67,200 pounds of potatoes annually; * which being divided by the 365 days of the year, will give one pound for each of four meals, or four pounds a day, during the whole year, to forty-two persons.”— [It should be forty-six.] “Hence it is manifest that 2,500,000 acres,” (a spot not quite equal to the small state of Connecticut,) “will permanently produce vegetable food for 100,000,000” [it should be 115,000,000] “of people.”

* What the maximum product of an acre of our New England soil may be, in potatoes, we do not know; but it is probably much less than the above amount. The maximum of corn, so far as we know, is 150 bushels to the acre.

POISONOUS CHARACTER OF TEA.

A LATE number of the Boston Medical and Surgical Journal contains the following paragraph, to which we urge the attention of every reader :

“ Dr. John Burdell, an eminent dentist of New York, uses a decoction of hyson tea,—one pound boiled down from a quart to half a pint—to allay the sensibility of the nerves of diseased teeth. Four drops killed a rabbit. When the same quantity was boiled down to a gill, four drops killed a young cat.”*

What will the public say to this? Though they heed not our warning voice, but spurn from them all our admonitions on the subject, will they hearken to the voice of the regular medical faculty? Will they hearken to the Editor of the Boston Medical and Surgical Journal, when he assures them, on the authority of a distinguished dentist, that tea is a poison—a most powerful one, too? If not—if they will not open their ears on this subject—we had almost said, let them go on and continue to perish day by day, in all the filth and error of their own transgressions. Let them continue to swallow a poisonous liquid, from their birth to their death, since they will do it, and suffer the consequences of their indulgence, in the colds, and headaches, and rheumatisms, and fevers, and consumptions of early and middle life; or if, peradventure, they escape these, in stiffness and dulness, and

* The Editor of the Boston Medical and Surgical Journal has, somehow or other, fallen into a mistake, in this matter. We have before us Dr. Burdell's own account of the experiment. It was ten drops that killed the rabbit; and eight of the stronger decoction, the cat. The mistake, however, does not materially alter the case. The tea, moreover, was young hyson. Both animals were of the same age—about three months.

in shortened, palsied and rotten limbs, and benumbed hearing, and dimmed sight, with the whole paraphernalia of infirmities and decrepitudes of what is usually called old age.

Let us consider the amount of poison which is swallowed by the person who uses a pound of tea. No lady, we suppose, would think herself extravagant in using a pound of hyson tea in three months. Yet a pound of hyson tea, boiled down to half a pint, would kill, according to the foregoing estimate, 17,280 rabbits; which is within a fraction of being equal to 190 rabbits a day, for the period of three months, or ninety-one days. Or if boiled down to a gill, it would kill 10,860 cats—the latter are rather tougher than rabbits—equal to 119 a day.

Now does any one believe that the strongest female on earth can take poison enough in a day to kill 190 rabbits, or 119 cats, and escape injury? Or suppose she could endure it for *one* day, could she endure it day after day, for ninety-one days, or three months—and, not only for three months, but year after year, for a whole life?

We know full well that the strong and robust bear the poisonous effects of tea better than the feeble, as they do all other poisons—coffee, rum, brandy, opium, tobacco, arsenic, prussic acid, &c. But they—even *they*—do not and cannot escape destruction from it, sooner or later. No matter what the disease may be called of which the tea-drinker dies; no matter, in fact, how many other diseases she has besides it; she dies, whether at twenty years, fifty years, or one hundred years of age, of the tea disease. She dies of poison. The conclusion cannot be evaded. We might safely challenge the whole world, in view of Dr. Burdell's experiments, to evade it. It were impossible.

But hark a moment, says the good lady who has heard us very patiently thus far; I am not so easily caught as you suppose. It is hyson tea that contains the poison;

but I drink black tea. I am sure black tea contains no poison.

Quite sure of it, madam?—I reply. Would it be possible, then, for the first shoots of your asparagus to be poisonous, and yet the second, or third, or fourth croppings to be harmless? Can the early shoots of the same plant or tree be of one nature, and the later and generally the more vigorous ones be entirely of another nature? No more, then, can one sort of tea be innocent, while another is noxious; since they are all the various cuttings or croppings from the same stalk. If hyson tea is poisonous, black tea is. Perhaps not in the same degree, to be sure; but the poison is essentially the same in nature. If one kills—whether it be rabbits, cats, men or women—the other will.

When will people heed the solemn warnings which the temperance cause, on every side of them, is revealing? When will they resolve, in the name and in the strength of Almighty God, and in obedience to his laws, natural and revealed, to be wisely temperate in all things?

TWENTY SIGNS OF HEALTH.

1. SLOW PULSE. By this is meant a pulse slow for the age, sex, temperament, &c. A thousand things may vary the pulse in those comparatively healthy. But the slowest pulse, other things being equal, where there is not apoplexy or some obvious disease, indicates the best health.

2. SLOW AND REGULAR BREATHING. This is closely allied to slow pulse; and he who has the one, will generally have the other.

3. REGULAR PERSPIRATION. We have already al-

luded to this, but not very distinctly. A steady, equable perspiration is a matter of very great importance.

4. **EQUABLE TEMPERATURE.** Cold hands, and especially cold feet, do not indicate the most perfect health. Neither does a tendency to excessive local perspiration, or local burnings or flushings.

5. **GOOD APPETITE.** There are so many elements of a good appetite that we must consider this topic a little in detail.

Regularity. It is not the best sign to have the appetite variable ; sometimes raging, sometimes almost gone. Always ready to eat and enjoy it, were it proper to do so, is the right condition.

Keeness. There may be a morbid or diseased keenness of appetite ; but we believe it is rare. They whose appetites are truly keen, find the plainest and most unsavory dishes which are wholesome, sufficiently sweet ; and have no desire for condiments, sauces, &c., for enjoyment merely, but only for indulgence.

Constancy. The usual reason assigned for wishing to exchange a dish is, that we had it at the preceding meal. Whereas, with those whose appetites are correct, this is the very reason for not making any change, except from principle. That we had bread and milk to day, is the very reason why we should choose it to-morrow, if we have a perfect appetite.

Strength. Not liable to be disturbed by qualms.

6. **LITTLE THIRST.** The more healthy we are, the less our thirst. There may be a desire to drink, not amounting to what is usually called thirst, which is yet compatible with health.

7. **GOOD TEETH.** As a general rule, the more perfect the teeth, in *every* respect, the better the health.

8. **FREEDOM FROM SALIVATION.** They are healthiest, other things being equal, who spit the least.

9. **STRONG PROPENSITIES.** Provided, however, they are well governed.

10. **REGULAR EVACUATIONS.** These are subject, in no small degree, to habit. But as we would say again, other things being equal, the more regular the better.

11. **MODERATE FULNESS.** Too much flesh indicates a state as remote from perfect health, as too much leanness.

12. **FIRM FLESH.** There is a difference in this respect, indicated by age, sex, occupation, &c.; but, in general, the harder and firmer the muscles, the better.

13. **GOOD COLOR.** Neither too red nor too pale; but a proper *flesh* color. Red cheeks may be *compatible* with health, but they do not *prove* it.

14. **LITTLE FATIGUE.** Persons of the best health feel the least fatigue.

15. **GOOD SLEEP.** Those who sleep best—that is, neither too profoundly, nor too unquietly—are healthiest, all other things we say again, being equal. The healthiest dream the least.

16. **PERFECTION OF THE SENSES.** Especially sight, touch and hearing.

17. **RAPID HEALING OF WOUNDS.** This is one of the surest signs of health which could be named.

18. **MILD DISEASES.** The milder the disease, when it attacks, the better the health, as a general rule.

19. **FREEDOM FROM DISEASE.** This, it may be said, every body knows. But we must include exemption from colds, as well as all other diseases.

20. **QUIET MIND.** We do not mean an indolent mind; but one which best works quietly, without the need of excitements.

LIBRARY OF HEALTH.

THE RIGHT USE OF FRUITS.

WE are by no means certain that it will not surprise many of our readers to see our title. What! are we to have a grave essay, by a grave man, on so trifling a subject as that of fruits? some of them will perhaps exclaim.

But is it indeed a trifling subject? Is it not one, on the contrary, of vast importance? Does not fruit, in some of its forms, and in greater quantity or less, come to our tables, or at least to our stomachs, almost every day in the year?

We know, indeed, that here and there an individual may be found who uses no recent fruit; and it is quite possible a few may be found, in searching through the whole country, who eat no fruit, of any kind whatever; though as yet we have seen no such person.

Is there to be found an individual among us, who not only eschews the apple, the pear, the peach, the plum, the strawberry, the raspberry, the blackberry, the bilberry, the whortleberry, the cranberry, the cherry, the currant, the grape, the orange, the lemon, or the pine-apple, while in their recent state, but who also refuses, at all times, figs, raisins, prunes, sweetmeats, preserves, jellies, sauces and pies? Does he never eat mince-pie, apple-pie, apple-dumpling, plum-pudding, quince-sauce, pear-sauce, cranberry-sauce, or at least plain apple-sauce?—to say noth-

ing of the more *elegant* compounds, as they are regarded by many, of lemonade, currant wine, cider, &c., whose properties, whether deleterious or excellent, have much to do with the character of the fruits from which they are made?

We believe that facts will bear us out, most fully, in the suggestion that either fruit itself, in some form or other, simple or compounded, or the products of fruits, whose properties are of course modified by the quality of the fruits from which they are derived, come not only to our tables, but to our stomachs, as a general fact, almost every day of the year.

But suppose it were not so. Suppose it were true that some among us seldom, if ever, taste of fruits or their products; what then? Is it not still true that the vast majority do? We are speaking, by the way, of New England—not of tropical climates, or polar regions, in one of which fruits are seldom to be had, and in the other of which, we can often get little else. We are speaking, particularly, of our own northern latitude of 40 to 45 degrees. Yet even here, is it not true that our happiness and our health, as a general fact, are more or less affected, every day, by fruits?

But granted that even this were not quite true. Let us suppose that neither fruits nor their products were much used by the middle aged and the old, at any season, nor by the young in the winter. Let us suppose—what indeed, we repeat it, we know is not so—that the use of fruits in New England, and even in the United States, generally, was confined to the young for five months of the year—the months of June, July, August, September and October. Is not the treatment of the young, for five-twelfths of each year, a matter of some consequence?

Let us consider, for a moment, the numbers of the young—who they are; what is their condition; and what their destiny.

Of the free white population of the United States, in 1830, consisting of 10,849,620, considerably more than half, viz., 5,851,770, were under 20 years of age. Then there were 1,874,898 more between the ages of 20 and 30; making an aggregate of 7,726,668 white persons in the United States, under 30 years of age; or almost three-fourths of the whole white population. We confine ourselves, in our remarks, to the whites, for want of exact data in regard to the rest.

Now it is not to be supposed that children, under two years of age, eat much fruit, as a general fact; though some of them do a great deal. But, on the other hand, the young do not forget the habit of being fond of it the moment they have passed their twentieth year; nor is it usually entirely excluded even at this period, by the cud of tobacco, the cigar, or the other extra stimuli, or by a cramping mode of dress that gives no room for fruit or any thing else. We may at least take it for granted, that as many continue their free use of fruit beyond the age of twenty, as there are of those who are below that of two years. Yet this, as we said before, is much more than half our entire population.

This large proportion of our juvenile population is, of course, the material whence we are to make our adult population, a few years hence; and as is the health and happiness of these at the present time, so will be the health and happiness of the world in the coming generation; that is to say, the rising generation is the world in miniature.

But the condition of this moiety of our population—the youth—what is it? Are they not subject to a long catalogue of diseases; some of them of very great severity? And do not a very large proportion of these diseases make their attacks from the middle to the close of the fruit season of which we have been speaking? And if we should deny that the one is cause and the other effect, in

any considerable measure, should we not still be forced to acknowledge that the diseases of September and October, must at least be modified by the fruits liberally received during the three months immediately preceding?

But if these things are so; if the great majority of our entire population—those who are to become, ere long, the bone and sinew of our country; if these, we say, are to have their energies wasted exceedingly, from two years old to twenty and upwards, by diseases induced, or at least aggravated by the use—rather the abuse—of fruits, as we shall insist by and by, what shall we say of their destiny? Can we look forward to any thing better, in the future, than to infirmity for the individual, and imbecility for the nation?

It will here be objected, we know, that we are begging the very question in debate; that we are taking for granted—what we have not yet proved—that the use of fruits, by the young, during summer and autumn, does induce or aggravate their diseases. The objection is a fair one; and we are thrown by it on the necessity of proof; or as a lawyer would perhaps say, of making out our case.

1. In the first place, we feel assured that the present use of fruits is one prominent source of autumnal diseases, particularly among children, from the fact that these diseases come just at the time they do. Did they come, in all their frequency or in all their severity, as early as June or even July, the evidence of their connection with, or dependence on the use of fruits would be far less strong than it now is. In the production of disease, the more obvious effects do not always—perhaps do not usually—follow very closely upon their causes. The autumnal diseases of infancy and childhood come exactly at the time when they should be expected, if the use of fruits *were* either the cause or an aggravation of the cause.

But adults, it will be said, are subject to disease at this season, as well as children. Yes, they are so ; though not, we believe, to a similar extent. Granted, however, it were so, do they not eat fruit ? Or if in less quantities than children and youth, which is the undoubted fact, do they not use other things at this particular season, which, so far as they are used, are more injurious ; such as greens, crude and especially raw vegetables, and sallad ? Do they not use too many ice cold substances ? And do they not use cold substances, and many substances not cold, in excessively large quantities ? May not the long continued heat, we shall probably be asked, have something to do in the production of disease, both in the case of the older and the younger ? Undoubtedly it may and does. The other causes, whatever they may be, would not make so strong an impression, but for this. Yet we still find that the diseases which fall upon the young at this season, usually bear some sort of proportion to the causes which operate more directly upon the stomach and first passages, such as food, drink, &c. ; and that in proportion as the stomach can be kept in a good state, diseases are either fewer or milder in their appearance.

2. But we feel assured that the use of fruits is one principal cause of disease, at this season, from the fact that so much diseased fruit is eaten. Less of what we now call diseased fruit is, indeed, eaten in the country than in the city ; and accordingly we find disease less frequent and less severe, about in the same proportion. Still there is, as we should expect to find it, no small amount of suffering even in the country.

By diseased fruit we mean, especially, premature, unripe and decayed fruit. Most children begin to eat apples, cherries and strawberries, long before they are ripe ; and not a few families even bring them to their tables in this condition. Again ; the first which ripen are usually

wormy or knotty, and for this reason they ripen prematurely. These are eaten by children, and with great eagerness. Almost all those which are carried to market, especially when the market is at any considerable distance, are plucked before they are ripe, by design. Thus, in the Boston market, which is not inferior, perhaps, to any other, at least in New England, cherries, strawberries, raspberries, whortleberries, bilberries, and indeed pears and plums are seldom if ever found in a state of perfect ripeness. They are almost universally picked and sent in before they are ripe; and for these two very obvious reasons; first, that the earlier they are brought in, the higher price they bring; and secondly, that if not brought in till quite ripe, they decay quickly.* And here again arises another source of disease in those who eat these fruits, that when not eaten prematurely, they are eaten very often in a state of decay; which is also a state of ill health or disease. We repeat it, we seldom get any healthy fruit in our markets. The same remark is also applicable, in no small degree, to the green vegetables in market, during the months of June, July and August—peas, beans, potatoes, turnips, beets, squashes, cucumbers, &c. &c. They are almost, or perhaps all of them, either unripe or diseased; and thus they tend to induce a diseased state of the stomach and alimentary canal. That is to say, the action they favor, is a less vigorous and healthy action, than that which would be maintained by more perfect and more healthy substances; and consequently favors more the production of disease.

3. But again; we are confident fruits have a conspicuous agency in the production of summer and au-

* We presume it is well known that the foreign fruits—for the last of these reasons—are always picked green; so that those of us who have never been abroad to tropical countries, can hardly allow that we have ever eaten any other oranges, lemons, pine-apples, &c., than those which are diseased.

tumnal diseases, from the fact that they are eaten in such a way as not only to do mischief by their own presence, but by the exclusion, in no small degree, of other and better substances. Thus, the child who eats from one to two pounds of green apples, or even of imperfect or decayed berries, is not only injured directly, by the substances received, but by the want of a suitable proportion of bread, milk, and other better and more wholesome substances to counteract their tendency ;—since it is perfectly obvious that the stomach of a child cannot *hold* every thing. Again, still ;—for even this is not all. A large proportion of the fruits are eaten between the regular meals, so that they not only crowd out other things, if we may so say, and waste, and break down, and cripple the nervous energy of the system, but they also weaken the digestive powers in a more direct manner, in that they leave the stomach no time for rest. Parents make a great mistake when they not only permit, but encourage their children to eat almost incessantly, of some thing or other, but especially of crude, imperfect, or diseased substances. And though on account of their tenacity of life, the obvious punishment of such transgressions may be delayed, yet it will inevitably come, sooner or later, and perhaps with an accumulated vengeance.

We deem it impossible, in short, for the present abuses to exist, to which we have, however, but barely referred, without producing disease of some sort, and at some time or other ; and we know not where to look for their effects, more naturally or more properly, than in the frequent summer and autumnal complaints of the stomach and bowels ; especially among children and young people.

4. The general testimony of medical men—we believe from the earliest dates—has been to the same effect. With one voice as it were, they attribute the complaints of which we have been speaking, in no small degree, to

the use of unripe or bad fruits, crude vegetables, &c. Even the spasmodic cholera, which caused so much alarm among us, was often *excited* in this way.

He who entertains doubts on this point, has but to run through the authors who have written on medicine—in all ages and countries—a list of whose very names would be tedious in a brief essay.

Some are accustomed to regard all this as mere theory. But it is not so. If there is experience in this matter any where, it is with physicians. By observation, by conversation and by reading, they glean up as it were the greater part of what is valuable, in their own practice and that of other men—we speak now of physicians who are endowed with common sense, and who have their eyes open—and some of them transmit it to posterity. What is commonly called experience, set off against what are called the theories of physicians, is mere tradition. A mother, perhaps, has known such a grandmother do so and so ; but without knowing whether the results were favorable or unfavorable ; for she has too little knowledge, either of health or disease, to enable her to discriminate causes and effects :—she pronounces, however, with the utmost confidence. These traditionary matters are wholly unworthy the name of experience. It is the wise physician who has it, if any body, as we have already said. This knowledge is based on experience. True science—the science of the medical man—is experience ; the cream of all experience for thousands of years past.

What then ! it will probably be exclaimed here, Does science or experience confirm the common prejudice against fruits, which so extensively prevails, that they cause dysentery, &c. instead of curing it ? By no means. They indeed cause it, as well as all other bowel complaints, if eaten in an improper condition, or eaten to excess, or in improper circumstances. But the moderate

and appropriate use of ripe fruits, instead of inviting or aggravating dysentery or any other summer disease, most undoubtedly tends to prevent or check it. We have no doubt in our own mind—and we believe that others who have reflected much on the subject are of the same opinion—that the fruits of summer were designed, in part, by the Creator, to correct that tendency to disease which is induced by a variety of causes, many of which, at present, are not wholly within our control.

To be rendered most useful and salutary, however, more pains should be taken and more common sense exercised than has been commonly in demand or made use of among us. We shall probably be able to make ourselves intelligible in this matter, by arranging what we have to say under a variety of heads.

1. QUALITY OF FRUITS.—Few people take as much pains as they ought, in order to raise the very best kinds of fruit. They content themselves with such as they happen to have, or can easily get. With many persons—our agriculturists and horticulturists, we mean now—an apple is an apple, as they say; a pear, a pear; or a raspberry, a raspberry. They seem neither to think nor care much about improvements. Nay, worse than even this; it has become almost proverbial with our farmers, that knotty, miserable apples make the best cider; and of course, the fruit which was once made into cider, but which is now used in the family, and among the domestic animals, will be of the same inferior description.

For one, however, who does not raise good fruit when he might, there are scores who do not buy good fruit when they might. Either they do not really know the difference, or they do not care to be at the pains to make a proper selection. Multitudes, moreover, buy the cheapest, without much reference to the quality, provided it *appears*

tolerably well, or is not obviously *bad*. Especially do they this, when it is going to be disguised, by being mixed with milk or wine, or made into sauces or pies. In the few instances in which it is purchased for the known purpose of placing it on the table for our families, or presenting it to our guests in its purely native state, some small pains may possibly be taken to have it excellent in its kind. But how often is it true, that in order to save a sixpence in the bushel for apples, or a cent a quart for berries, we purchase that fruit which is coarse or otherwise imperfect in its quality, in preference to that which, though it may cost a trifle more, is comparatively ripe, sweet, pure and perfect.

2. **EARLY FRUITS.**—We do not believe that the earliest fruits of the same kind are the best, even when we are sure there has been no hot-house rearing. Those fruits which have been urged forward by artificial means, almost every body knows to be less wholesome. But we believe that the intense heat of summer, joined to other causes, often urges forward the first pears, and apples, and cherries, faster than is really best; and therefore it is that we seldom use the first which appear of these and several other kinds of fruit, even though they may seem to be perfectly ripe. We prefer to wait a little. Locke, the philosopher, advised to wait for new apples till October; but we usually think we do very well, if we wait till September.

3. **UNRIPE FRUITS.**—Here is the great error, after all. It is not children alone who fall into it, but adults. Green currants and green apples are often stewed and sweetened for sauce, or made into pies, long before they have attained to the perfection of their juices. The same may be said of several other fruits. The grape, and perhaps a few others, are pickled while green. Indeed, as we have else-

where said, the fruits of our markets, whether foreign or domestic, are almost always picked before they are fairly ripe.

There is a confused belief abroad, not only among the illiterate and vulgar, but even among the intelligent, that the cooking of green fruits, by baking, boiling, &c., renders them wholesome. Now we do not doubt that cooking them renders them less hurtful; but it does not and cannot bring them up to the excellence of the natural ripe state. The crude unhealthy juices of the green apple, for example, are changed by the slow action of the sun, in ripening. Now there is no process of cooking which can make things change exactly as the natural laws of the Creator would do it. Cooking—boiling or baking—will not change the acetic or oxalic acid into the citric; or the malic acid into saccharine matter, at least to any very great extent. Still less is it true that mixing sugar, wine, or milk with unripe berries or fruits, raw or cooked—will render them as salutary as those which are perfectly ripe.

To say that unripe fruits, cooked or uncooked, are equally wholesome with those which are ripe, would seem to us like charging imperfection or error on the Creator. A perfectly wise Being would not waste—so to speak—his power and energy. But, if fruits are as good before they are ripe—before the rougher acids and other juices are softened into sugar and citric acid—as they are afterward, why do they get ripe; that is, why is it so ordered in the laws of nature? Or rather, why is power wasted in bringing to a higher maturity that which is mature enough already? It is not material to the perfection of the seeds and the propagation of the stock, whether the acid of the pulp of the fruit be malic or citric.

Some say that by beginning to use fruits a little before they are ripe, we prolong their use. Yet this is precisely a reason why they should not be thus used. The straw-

berry, for example, first ripens. Now this gets ripe in the natural way, just soon enough to take the place the Creator intended it should fill, as a preventive of disease. It is not wanted a day sooner than the Creator gets it ready. Nay more, it is injurious to extend its use. Grant that it ripens quickly and passes quickly away. It is its short use, in a perfect state, rather than its protracted use in an imperfect state, that does the work of mercy assigned it.

These views are confirmed by a consideration of the regular succession of fruits. One is ripe, remains ripe, in its healthy varieties, a few days, or it may be a week or two; then comes another; then another, and so on. One is adapted to the early part of the season, another to the middle, another to the latter part; and seldom if ever, when confined to their proper use, do they trench upon each other. But by our premature and prolonged use of them, we break in upon Nature's own beautiful arrangement, and thwart her sanitary purposes. Thus by eating the apple before it is ripe, we must either neglect the fruits which are better adapted to that particular season than the apple is, or by eating both, eat too much for the best purposes of health; either of which results is unhappy.

4. DISEASED FRUITS.—It is, for the most part, premature or precocious fruit which is diseased. Thus those cherries, whortleberries, and several other fruits which turn red first, are found to be diseased, internally. Usually one or more worms will be found in them. Nothing is more common than to find apples prematurely ripened in this way.

But we have also seen the later apples, at particular seasons, and in particular places, considerably diseased. They seemed full of little veins, or passages, not unlike

the passages of worms, and were undoubtedly indicative of disease—either animalculæ or something else.

The strawberry is sometimes unusually sour or unpleasant, in its taste, owing perhaps to long rains. It is then in a diseased state, and ought to be avoided.

5. DECAY OR PUTREFACTION.—The decay of fruits might have been considered under the preceding head, since all such decay may, and probably will, have a visible effect on the health of those who make use of it.

Most persons avoid fruit which is wholly decayed, as it were instinctively; except in making cider. In the latter case, many farmers consider a few decayed apples as quite harmless; and some think them even useful.

It does not, however, seem to be considered that fruit is injurious when in a state of partial decay only. Many—very many—seem to think that after the decayed part of an apple is removed, the remainder is just as wholesome as ever. They would not, in all probability, like the flesh of an animal, killed while it had a mortified limb or organ, even after the mortified part had been cut away. There would probably be a suspicion that the rest of the animal was more or less affected. It is true, that the interior of the apple is not exactly like that of the animal; but does any one believe that there is no change in the parts of an apple contiguous to a decayed or putrid portion? If so, he is much mistaken.

More than even this, however. There is a degree of decay in all fruits before it is readily discoverable by the eye. In the rich, juicy summer fruits, this is sometimes quite obvious to the smell, and it is often so to the touch. Fruit, in a decayed or decaying state—we repeat it—can never be as wholesome as before; and should, if practicable, be avoided.

6. **PROPER HOURS.**—Fruit is not so very easy of digestion as many seem to suppose. The mistake has arisen from the fact that an over-quantity of it does not seem to be very mischievous. This, however, is not owing to its digestibility, but to its want of stimulation. It is also supposed, too, that fruit digests easily, because children are very fond of it; and do not often seem to suffer from the use of it. They do, however, suffer from it, much oftener than has usually been supposed; as may perhaps be inferred from what we have already said elsewhere. One thing, however, in regard to children, should be remembered; that if their digestive organs are not quite so strong as those of adults, they are at least more active, much more so; which makes up, in part, for their want of strength. Were it not so, they would suffer much more from their excessive use of fruit than they now do.

We have said that fruits are not very easy of digestion. They are, however, easier in proportion to their perfection. This might have been urged as a reason why they should be of good quality, seasonable, healthy, &c. But with every thing else, and all circumstances favorable, they can be digested with tolerable ease.

One favorable circumstance is full bodily vigor. On this account, fruits should generally be used in the early part of the day, and seldom late in the evening. The morning is, on the whole, best; and next to that, perhaps, the middle of the day. The worst hour is the hour just before going to bed.

7. **STATE OF THE SYSTEM.**—On this topic a great deal might be said which would be to little purpose, unless our readers understood better the laws of the human economy. We can only glance at a few of the plainer points.

The drier fruits are adapted to the cooler, drier weather; the moister ones to the hotter. Thus the less juicy sorts

of cherries, pears and peaches, are not only most grateful but most salutary when the weather is not excessively hot ; while the currant, and the melon, and the moist peach, are best adapted to the hottest days.

The same may be said of the different hours of the day. If fruits are eaten at all late in the day, especially after the middle, it should be the more watery, as the melon.

Again ; the sweeter kinds are, as a general fact, best adapted to the cool or moderately hot hours and days ; and the gently acid sorts, to sultry weather.

Again, still ; if we use at all those which are more difficult of digestion, they should be used when not only our system in general, but especially our digestive organs, are the strongest ; as in the morning, or when we have not been recently unwell, or over-heated, or over-fed, or fed with too nutritious or too stimulating aliment.

Once more. Fruits are best adapted to our wants, and will best agree, in exact proportion to the perfection of our health. Thus when people tell us, as some do, that fruit does not agree with them, we conclude almost at once, that their systems are out of order. They may not perceive it ; but there is trouble somewhere, amounting at the best to incipient disease.

The foregoing view of the case,—though affording nothing more than a few brief hints on the subject, will be confirmed by considering the arrangements of Divine Providence. Thus, as a general rule, the fruits which come first and those which come last in the season, when the weather is usually less hot and dry, are not so juicy as the currant, the blackberry, the watermelon, the muskmelon, which come during the more sultry season. There may be apparent exceptions to this rule ; but they are not numerous. But on this part of our subject we cannot enlarge.

8. QUANTITY.—Most adult persons fall into the error of eating fruits but rarely, and then eating them in too large quantity. Children, it is true, are not only ready to eat them too often, but in too great quantity also. It seems desirable that they should be used in very moderate quantity only, both by children and adults; but they should be used, for five or six months in a year, almost or quite every day.

Some will inquire what the specific quantity eaten should be. This it is as impossible to determine as it would be to say how much oxygen a person ought to breathe in a day, or how much shoe leather he ought to wear out in walking. Some hints may, however, be derived from our remarks under the two or three remaining heads of our subject.

SIMPLICITY.—The simplicity of fruits has been much overlooked. There are indeed some combinations with other substances, and some changes of the fruit itself, which are less hurtful than others; nay, which, in particular states of the system, may be, and undoubtedly are, salutary. Thus, the good mellow ripe pear or apple, though best in its natural state, may be most salutary, if used at all, in particular states of the system, when boiled, baked or roasted. It may, indeed, be a question, whether, in these circumstances, fruit is the best thing for us; but this question we cannot, at present, settle.

But what we object to is not the occasional baking of an apple or a pear, but that perpetual din of cookery and change which prevails, of our simplest fruits. Thus they must be sugared, or spiced, or made into pies or puddings; or they must be eaten with wine, or milk, or made into preserves or sweetmeats. Now this is all folly, and worse than folly, to the healthy. It is not only an absolute loss

of gustatory enjoyment, but of health ; provided, we still say, we have health to begin with. As for the sick, we repeat it—we are not here writing for them—but for the healthy.

We have said that the practices to which we allude, are not only foolish, but unhealthy. We will say more, still ; they are wicked, or would be so did people understand the matter just as it is. By what right do we waste valuable time in those kinds of cookery, whether it be of fruit or any thing else, which neither make the substances upon which we operate, any more agreeable to the healthy appetite, or to any individual in the wide world any better ? Is it not the legitimate object of christian cookery to make food more palatable, more nutritious, more abundant, or more wholesome ? And is not that time which is spent in cooking without accomplishing any of these objects, wickedly wasted ? But none of these objects are accomplished in the case we have just named, except the first ; nor that, except in the case of a perverted appetite. We would indeed refer, as such an exception—though we have our doubts, after all, whether it is one or not—to the apple or the pear, which may possibly be rendered a little more nutritious by simple boiling, baking, &c. The specific properties of fruits, *as* fruits, are almost wholly lost when they are used with wine, or in pies or puddings ; and worse than lost when they are made into sauces, or preserves, or sweetmeats.

We think a good deal of health is lost by the errors to which, in the two preceding paragraphs, we have adverted ; and we call upon the common sense of all our readers to set about a reform in this matter. It is due to themselves, at a more advanced age ; but it is especially due to their children. No child, not perverted—and that strangely perverted, too—would ever prefer cherries, or whortleberries, or apples, in a pie or a pudding, to the simple use

of the fruit as it comes from the hand of the Creator, and cooked in nature's own manner. We might safely challenge the whole world to prove the contrary.

10. **HOW FRUIT SHOULD BE TAKEN.**—Fruit should usually be taken as an article of food, either as a whole meal or a part of one. Perhaps no error in regard to fruit has done more mischief than that which prevails—at least in practice—that fruit is not food; that we may eat our usual allowance of food, and afterwards a quantity of fruit in addition.

Some of the German physicians recommend that the breakfast for the young, especially for those who are not very vigorous, should consist either of fruit alone, or of fruit and milk. Thousands and thousands make a whole breakfast of fruit. But where milk is taken by the young, we prefer that it should be taken at breakfast, to the partial or entire exclusion of the fruit. Those who make their breakfast of milk, however, if they are under four or five years of age, and especially if they take it at six o'clock, may take a small meal of fruit at nine o'clock; while those who are older, and do not need more than three meals a day, may take a part of their fruit with the meal of milk, and a part with their dinner. Let not the parent be anxious about a want of nutriment in fruit, as if a meal made of simple fruit would not hold out. No parent ever fears that milk will not hold out, or potatoes. And yet there are few ripe, perfect fruits—probably none except melons and cucumbers—that do not contain about as much nutriment to the pound as milk or potatoes.

There is not, there cannot be, a more wholesome breakfast in hot weather for adults or for children, than a breakfast made up entirely of fruits; as strawberries, raspberries, cherries, whortleberries, &c. Nor is there one more delightful, ere the taste and habits have been

perverted and depraved. Let those testify on this subject who have tried the method ; other testimony is merely negative.

But if mixtures are adopted, milk or bread, or hommony or rice, are probably the best adjuncts. Potatoes may answer ; but we do not like them so well. Still less do we like peas, and beans, and soups, and butter, and cheese, and even plain puddings. Simple bread, *good* bread, and plain milk, are the best.

As to the irregular use of fruits between our meals, as is the way of most children, and even of some adults, we conceive it to be abominable. Nothing sooner breaks up digestion and induces derangement of the stomach and bowels, than eating irregularly between meals, even when the substance eaten is in itself unexceptionable. It is, in fact, one of the most prolific causes of our summer and fall complaints ; and hence the importance of understanding this whole subject, and of governing ourselves and our families accordingly.

There is one circumstance which renders it particularly necessary to avoid overloading or irritating the alimentary canal, during the summer season, especially with the skins, seeds, stones, hulls, &c. of fruits whose pulp is in itself wholesome. It is this. The great heats, by acting so long on the skin, weaken this covering membrane of our bodies ; and whatever weakens this, weakens at the same time, by what is called sympathy, the lining membrane of the alimentary canal. Our food, therefore, and our drink, under these circumstances, ought to be lighter and less irritating than usual ; instead of being more heavy and more likely, by their nature, to cause disturbance ; and the stomach, above all, ought to have its seasons of rest between our meals, instead of being constantly plied with any thing whatever.

Although the fruits come exactly in the season when they are wanted, if used as God in nature intended they should be, they come exactly when they should not, if we are to abuse them, as is too frequently the custom. If they are used without regard to the rules we have laid down, and especially in defiance of those rules, nothing could be worse for us. Even as they are now often managed by some people, it would not be far from truth to say, that they come to them in the worst season of the year; and in the worst circumstances. Their abuse of them, in the winter, or even late in the fall, or early in the spring, would not be half so dangerous.

When we consider how much imperfect and bad fruit, together with multitudes of other crude substances—greens, salads, pickles, cucumbers, horse-radish, mustard, radishes, &c. &c.—is thrown into the human stomach between the months of May and October—the very time, as we have said before, when they are most injurious,—we are often struck with surprise that the amount of disease in the community is no greater than it actually is. Surely the human constitution is very strong, or it could not bear up under such an accumulation of abuses, especially when they are repeated from year to year; and are often continued through life!

11. KINDS OF FRUIT.—The question will here arise, in the minds of many—What kinds of fruit are best? A question to which we were well nigh ready to make a very laconic, if not paradoxical reply, and say—"All are best." Nor would the reply be so far from truth, as some might at first suppose. Of the various kinds of domestic fruits whose use is sanctioned by custom, almost all are wholesome, when used in accordance with the principles we have endeavored to develope in this essay. The foreign

fruits, except perhaps the grape, and the dried fruits, raisins, figs, prunes, &c., owing to the reasons we have elsewhere given, should be chiefly avoided.

Some of the fruits are adapted, as we have seen, to one season, some to another. A few of them can be preserved in tolerable perfection almost the year round. Such are the apple and some kinds of pears; and with suitable pains, the grape. Many of them may be preserved, by drying, without having their properties essentially impaired. Such are the apple, the peach, the currant, the whortleberry, and the plum.

We have said that the fruits in common use are almost all good in their season and place, if used properly; and we have more than intimated the difficulty of selecting. The sweet and mildly sour apple, the milder and more tender sort of pear, some kinds of peaches, strawberries, raspberries, blackberries, whortleberries, melons, and bilberries, may be said, as a general rule, to be among the better class of fruits; and next to these are the winter apple, the cherry, the gooseberry, the currant, the mulberry, the best grapes, and some sorts of plums. The cranberry, the crab-apple, the winter pear, the wild grape, the wild cherry, the damson, the quince, &c. are unfit for the human stomach, without being submitted to processes of cookery which involve more labor than the fruit is worth; and even then, they are of doubtful utility.

Of the currant and mulberry, to which we have assigned a secondary place in our catalogue, we ought however to remark, that there are some kinds of them far preferable to others. The sweetest of the former, and those which are least sweet of the latter, are preferable.

As a general rule, then, we would only say in closing, choose those *sorts* or *kinds* of fruit which are either moderately sweet, or gently acid; and those individual fruits of each general sort or kind, which are the ripest and

most perfect. And having made your choice, endeavor to use them in accordance with the laws of life and health in general, and with the principles we have endeavored to develope in this essay.

FRUITS IN HOT CLIMATES.

[This letter, from a lady in India, we have had on hand for some time; for which our only apology is the want of room for its insertion.]

MR. EDITOR :—In the Moral Reformer for October, 1836, I observed an article respecting Exotic Fruits. Your correspondent inquires, “Do you not suppose that the free, but proper use of the fruits and other wholesome vegetable aliments of the country—by those who visit the tropical regions, all other things necessary for the health of the body being attended to—would, in a great degree, mitigate the terrible diseases which strangers so generally, in some places, suffer; especially when combined with abstinence from animal food, which, I imagine, is more prejudicial in hot climates than in cold ones?”

Your own remarks on the article to which I allude, and the length of time which has elapsed since it appeared in your paper, would seem to obviate the necessity of saying anything more upon the subject. With you, I think “that the untimely death of so many good men in foreign countries is wholly unnecessary.” I am induced to recall the subject, by the hope that some hints from one who has resided nearly four years within the tropics, (three years of this time in a country considered very insalubrious,) and endured the ordeal of acclimation, uninjured, may turn the attention of those who are looking forward to the missionary life as their own, to the subject.

The waste of life among the foreign soldiers of the cross, is not to be attributed so much to the sultry climes in which they reside, the pestilential vapors they inhale, the improper food they eat, the hardships they endure, the labors they perform, as the neglect of their health during the period of their studies. As far as my observation extends, few missionaries, either male or female, leave their native land with unimpaired digestive organs. The student has solemnly laid his all upon the altar of the Lord, to go if providence so lead, to the ends of the earth; but forgets that, in order to "be a *living* sacrifice," any thing but his heart and intellect demand his attention. His intended companion, rejoicing in his consecration, and seeing his time is short, leaves the active duties in which she was wont to engage at home, and *sits down* to her studies, that she may become a help *meet* for him. They vainly dream that their anticipated sea-voyage will put to rights their dilapidated tabernacles of flesh; though it might have somewhat of that effect, if the one would "ship before the mast," and the other engage largely in the duties of the steward. Let me tell them that the table of a merchantman bound to India, affords but little that will be relished by a vitiated palate, and that it requires more decision than one who has neglected his physical frame possesses, to keep up a system of exercise for five or six months on ship-board. Probably the plethoric and corpulent are better able to endure a vertical sun for having suffered sea-sickness, and all the other *comforts* of a long voyage. At least they find themselves in a state of mind and body to enjoy "an Indian hut on *land*," and receive any thing which has recently seen the earth, with thankfulness.

If the mission company land upon shores where there are foreign residents, they will undoubtedly learn and perhaps conform to "such customs as are most approved

by the physicians and public guides there. What are those customs? They are customs established by nominal christians, who have been prompted by a love of money, to forsake their native land, and who seem disposed to supply the place of any deficiency they find in their former enjoyments, by over-eating and drinking. Meats richly dressed, hot curries, with all the luxuries to be procured from cold countries, load their tables, while the bottle goes merrily round. Physicians must prescribe a little wine for their patients, or at least connive at its use. I have not heard of a single *fair* experiment of an opposite diet; and till such trials are made, we shall always hear of the necessity of stimulating food and drink.

But do self-denying missionaries conform to such customs? None with whom I am acquainted do. Still I do not think they have made a fair trial of a different course. Some "use a little wine," and partake of stimulating food, "for their stomach's sake." Others, with that tendency to extremes so common to man, resolving to bestow no thought upon what they shall eat and what they shall drink, suffer a native to procure whatever he pleases, (provided it is cheap,) and dress and serve it up as may suit his fancy, or rather his indolence. In this way they eat many things which are indigestible, ready to decay, (if the process be not already begun,) or badly cooked. If illness ensue, it is tauntingly ascribed to "the *poverty* of their living," and held up as a beacon to warn new comers to avoid plain food. Debility and emaciation are represented as sure to follow the rashness of him who may wish to test for himself the "existing," or rather the *non-existing* customs of the country.

But I have entirely lost sight of the question respecting the use of fruits. "Can I eat a slice of pine-apple?" "Are plantains wholesome?" "Can I safely indulge myself in eating oranges, guavas, jack-fruit, mangoes, man-

gostans, &c.?" These questions are continually heard from new comers. Most of the foreign residents in India will allow that a little of these fruits may be eaten, if the stomach be well guarded with wine or brandy. I would say, eat of any fruit which the *natives*—not foreign residents—pronounce wholesome; but "let your moderation be known" in the first use of it. An ordinary share of common sense will soon show you what you may eat, and what you must let alone. While you should receive all the fruits within your reach, which are pleasant to the taste and good for food, with thanksgiving, you have no right to impair your health in the indulgence of your appetite. I have eaten *freely* of all the fruits I *relish* since I have resided in India; and with the exception of the guava, find them harmless. Lemonade and cocoa-nut water I drink freely whenever I wish them. I find no disposition, however, to drink either, unless the weather is very hot, or I am somewhat feverish.

With regard to the use of stimulating food, I do not like to speak with much assurance, for I do not know of a single individual whose *opinion* accords with my own, though I can mention several whose *practice* is the same from preference. "Rice is cold, and must be highly seasoned," is the theory of all foreign residents in India; and for proof of it, we are pointed to the universal practice of the natives. It is true, that most of the native dishes will bring tears to your eyes, and much of their time is whiled away in chewing a cud of betel and sere. If I had no more to occupy my mind and heart than they have, I should be glad of a similar employment, and desire the same stimulants. As it is, I have passed the period of acclimation as well as any individual I know of, and far better than most, but have not yet seared my mouth with heating condiments.

I agree with your correspondent, in the belief that animal food is more injurious in hot than in cold climates. The fact that the Chinese are much stouter than any other people with whom we meet, militates somewhat against this opinion, for they are famous *pork-eaters*, but still more famous as eaters of rice and garden vegetables. It is believed by them that the food of other nations is wanting in nutriment.

About three months since, I was persuaded to make another attempt of a diet mostly vegetable. At that time I was exceedingly emaciated, but not from any "disease of the climate." During the period mentioned, I have eaten rice and curry, a little salt fish, sea-biscuit, cakes and puddings of rice flour.

Most of your readers may know little of curry, but its name. It is a gravy for *steamed* rice, made to suit the taste of the eater; and generally has a large quantity of cayenne pepper in its composition. I prefer those made of fowl, or prawns, or cocoa-nut milk, seasoned with turmeric, coriander seed, a little ginger, a small onion, very little red pepper, pounded together, the whole being well boiled. Curries may be made entirely of vegetables, if necessary.* As the result of my experiment, I have regained my flesh, and a relish for food, but eat less in quantity than I formerly did.

It would doubtless be unwise for any person to attempt to confine himself to rice and curry at first, for it takes time, usually, to acquire a relish for it. In all places where Europeans have long resided, good wheat bread is to be procured, which may serve as a stepping-stone. The

* The reader will not of course suppose that all the views of our correspondent concur with our own; but we are willing she should tell her own story. We are not friendly to curries of any sort.

variety of good vegetable food which comes to our knowledge is constantly increasing, and it is probably the same in other places.

One word more to missionaries elect. Do not be too ready to believe all that you hear, but use your own judgment, avoiding a nervous fear that "death is in the pot," of which you have just partaken. The time to discuss the merits of an article of food is *before*, not *after* it is eaten.*

There are several other causes of the mortality of missionaries, besides improper diet, which should be treated of in your journal; but I have already extended this communication far enough. If this shall enlist abler pens in the cause, my object will be accomplished. E. E. Y.

DISUSE OF MEDICINE IN FRANCE.

WE have permission to present the following article, from a source worthy of entire credit, in confirmation of the views we entertain, in regard to the abuse of medicine among us. LOUIS, who is mentioned, is one of the most distinguished medical men in France.

DR. ALCOTT:—A medical gentleman, after having been a year and a half in Europe, for nearly a year of which he has been employed in a close attendance upon the Parisian Hospitals, writes thus :

"Drs. ——— and ——— spent last evening with me ; and as we discussed medical topics, I was reminded of the great difference existing between French and American

* A most excellent rule ; one which we can commend to all those readers who wish to talk about their food at all.

practice, with regard to the quantity of medicine given. Since I left America I have not seen *a single emetic administered*, nor heard one ordered to be administered. Louis *never* gives them, unless, perhaps, in case of poison, when there is no stomach pump at hand. We abuse ourselves, in America, with emetics. When they are indicated, it is much better to stop eating, and let nature and time effect a cure. Nor have I known of more than some dozen or so of cathartics administered; yet almost every patient takes a substitute much in vogue at Paris.* In small pox, *no medicine* is given; and in three quarters of the cases of typhoid fever, the patient is only put upon '*strict diet*,' and allowed to drink a bottle of Seltzer water each day. These are, of course, only the milder cases."

CAUSES OF DISEASE.

A LATE number of the Boston Medical and Surgical Journal contains—from the pen of the attending physician,—a long account of a child in Scituate, three or four years old, who suffered almost every thing but death from getting a small piece of nut-shell, only about a quarter of an inch square, into its windpipe; where it remained four and a half months. It was at length suddenly expelled, while in the act of coughing and vomiting.

Great credit is due to Dr. Capen, the physician, for his frank confessions respecting his treatment of the child. If other physicians would make similar confessions, we doubt not it would have a good effect, by leading medical

* What this substitute is, we are not told.

men to greater exertion to discover the true sources of disease;—the only safe ground of any attempt at removal.

It is greatly to be regretted that medical men, and parents also, do not take more pains to trace the causes of disease, both in children and adults; and that the instruction of all classes of mankind in the principles of health, anatomy and physiology, is not such as to enable them to do it with more success.

Dr. Capen was first called to the child at Scituate, about five weeks after the piece of nut-shell had fallen into its windpipe. Previously to this, it had only suffered with fits of coughing, every day or two; but now, the complaint put on the appearance of a violent attack of worms, induced by cold, and was treated first with the “most powerful” vermifuges, to find out, as it is modestly stated, *what they would do*. Finding them of no service, the treatment was directed to the supposed violent cold. An emetic of ipecac, a cathartic of jalap and cream of tartar, and powders of ipecac, every six hours, with slippery elm, liquorice and flax-seed teas, were relied on for five or six days; after which, castor oil, opium, camphor and squills were given. The disorder—by no means relieved—was now ere long suspected to be asthma, but of the particular treatment for this disease, we are not so minutely informed.

About a week before the piece of nut-shell was vomited up, the symptoms put on the appearance of violent croup, and the child was treated with a “powerful emetic of ipecac and tartarized antimony,” “followed with jalap, calomel, and castor oil,” and subsequently by “ipecac powders, and equal parts of castor oil and syrup of squills.”

Thus the constitution of the poor child, in the course of three months, was unhappily subjected to the repeated powerful influence of camphor, opium, jalap, antimony and calomel,—to say nothing of the ipecac, castor oil,

squills, &c. And what is not a little singular, the medicine almost always appeared to afford relief, which sometimes lasted several days or a week ; and in some cases, perhaps a fortnight.

We must not omit to state, that, in this case, the mother of the child suspected the nut-shell from the first, though the physician does not appear to have believed, until compelled, that it could be the cause of so much disturbance.

A less skilful physician, however, might never have discovered the true cause of the disease. The child often vomited during its $4\frac{1}{2}$ months of suffering, and it was no small task to watch, with care, the nature of its rejections. But suppose the discovery had not been made at all. The child would have recovered, of course, when the nut-shell was out of the way ; the physician would have had the credit of "carrying him safely through" four obstinate diseases ; the parents would probably have taken to themselves much credit for the manner in which they had borne with this *providential*, though mysterious affliction ; and the Creator would, with them, have had the credit—we would be reverent, though we use irony—of making a frail machine subject to much derangement and suffering, instead of one which, but for the carelessness or errors of mankind, might continue in repair through life.

OUR SYSTEM.

WE often hear people talking about "the system." "Such an one," they will say, "is fast getting into your system." What do they mean? We have no system. We teach none, unless to endeavor to teach people to do right, be to inculcate a system.

We have no system, we have said. Yes, we have a system, we must confess. It is the Bible system, or Christian system ; or, to speak more strongly, but not less reverently, God's system.

God, our Creator, is as much the author of the laws around us, and within our own frames, as he is of the laws given at Mount Sinai. This, we are most clearly taught. How can we "glorify God in our bodies and spirits which are his," without obeying the laws which obtain in those bodies, which are here coupled with the spirits which inhabit them. If to teach that mankind ought to obey the whole law of God, as fast as they understand it, and to seek to understand it, as fast as possibly they can—to seek the truth, and when found, to obey it—if this be to teach a particular, or new system, then be it so ; though we confess we do not so understand it.

Nothing which we teach as natural law, wars at all with God's spiritual law. Were it otherwise, we might justly be accused of heresy, or at least of having a system of our own. Nay, worse than even this. We teach nothing, so far as we know, that may not fairly be inferred from the Bible—the record of God's spiritual law—both in the Old and New Testaments.

To the law and to the testimony, we say ; if we speak not according to them, there is no light in us, or to be derived from us.

MISCELLANY.

THE second American Health Convention has been lately held in New York. It was attended by delegates from several Health Associations, and by other friends of Physiological reform ; and rendered interesting by ad-

dresses from various individuals, and the adoption of sundry important resolutions.

The third Anniversary of the American Physiological Society was held on the 29th of May, at the Marlboro' Chapel, in this city. The Annual Report was made, and several important resolutions adopted.

The medical world are beginning to admit that tea and coffee are poisons.

Physicians, especially intelligent ones, are using much less medicine than formerly. Perhaps this change is nowhere more obvious than in Boston.

It appears from the London Lancet, that Majendie, the distinguished French Chemist and Physiologist, has shown, by repeated experiments, that butter and other oily substances have a bad effect on the human stomach.

A case of parturition, in New York, resulted lately in the death of the patient through the murderous ignorance of the attending physician; and the Boston Medical and Surgical Journal admits that there are even "*in the city of Boston*, practitioners of midwifery," equally ignorant.

Ephraim Pratt, of Shutesbury, who died in 1804, aged 116 years, took no animal food for 40 years, and yet he could mow "a good swath" almost to the hour of his death.

The world is beginning to find out that bread, milk, rice, pulse, &c. are not *light food*.

Two curious books have lately appeared in London—one on "Intermarriage," the other on the "Philosophy of Marriage." The former, we understand, is to be republished in New York.

LIBRARY OF HEALTH.

THOUGHTS ON BATHING.

THE word Bathing is of very general application, and requires a particular, though brief definition.

Bathing may be either local or general. Some indeed always connect with the word bathing the idea of entire submersion in the water ; but this is not the more correct definition. It is usual, even with physicians, to speak of bathing a part of the system, as well the whole of it ; as the head, a wrist or an ankle. It is with general bathing, however, that we have principally to do, in the present article. Of this there is a great variety of forms ; among which are the hot, the warm, the cold, and the medicated baths.

The warm bath is also sometimes spoken of in two ways. When the water used is below about 90° of Fahrenheit's thermometer, instead of being called the warm bath, it is usually called, especially in books, the tepid bath.

There are also several ways of applying water of every temperature, besides the more usual one, that of immersing the whole body. These have given rise to the various names of shower bath, sponge bath, hand bath, *douche*, or dash, &c.

When the temperature of the water in which we bathe is much above the temperature of the blood, viz., 98° of Fahrenheit, and especially when it rises to 108°, or 110°,

it is called the *hot* bath. When it varies from about 90° to 93° , not exceeding the latter, we call it the *warm* bath. The tepid bath has been sufficiently described.

When we are immersed in water, of a temperature much below 80° ,—or at least below the temperature of the surrounding atmosphere at the time—we experience a sensation of cold; and this sensation will be more or less disagreeable, in proportion as we are more or less able to resist its influence, by generating new heat in our systems. This is the more common form of the cold bath.

Perhaps there is no country in the world favored with greater facilities for bathing, than the United States; and yet there are few portions of the civilized world in which it is believed to be so generally neglected. For while almost every family has water in the greatest abundance, at or near the door, in the form of river, brook, pond, or well—sometimes nearly all of these—how few individuals ever bathe their whole bodies in it twice in a year!

That water is indeed pretty freely used, in cooking, washing, and irrigation, is freely admitted. That a considerable quantity of it is also used in the various mixtures among us, called drinks, is equally undeniable. It is indeed true that for the latter purpose, it is seldom used in its pristine condition—nature's own state. Thus what we call tea, coffee, chocolate, beer, cider, and even distilled liquors,—though for the most part chiefly water, and some of them nearly all such—are all of them more or less impure and unwholesome, having more or less foreign or poisonous substances infused or mixed with them. Still, in some point or other, this elementary substance is much used; and if wholly withheld by Heaven but for a single week, would prove the destruction of thousands and millions of our race.

We cannot dwell, in this place, on the importance of a much more free use of this rich gift of Heaven, in its va-

rious forms, but especially as a common drink, because the consideration of the subject would carry us quite aside from our proper path. We have been led along thus far, merely to show that though water is used extensively every day, its use is still but trifling compared with its amazing abundance and real value. Many a family rarely uses, for all its various purposes, much more than a single hogshead of it in a week, when it would be pleasant and healthy to use a dozen hogsheads, or perhaps fifty.

Moses, the Jewish lawgiver, divinely instructed as he was, seems to have understood, far better than we, the legitimate uses and true value of water. So with the Hindoos and Egyptians, and in fact, most nations of the East, both of ancient and modern times.

Should it be said that though bathing may be necessary in hot climates, it is not so in ours, we might refer to the inhabitants of Russia, and of many other regions, who, with a climate quite as cold as ours—in some instances much colder—have ever been in the habit of paying much attention to bathing, both in warm and cold water.

Perhaps, however, no people of ancient or modern times have better understood the use of water as a luxury, than the Romans. Cameron, in a work on Bathing, estimates the public hot baths of the Roman emperor, Antoninus, as sufficient to hold 285,862 persons at once, or to accommodate several millions of people in a day. But admitting that there is some exaggeration in his statements, the accounts given of the hot baths of Dioclesian, which would accommodate 18,000 persons at once, or 360,000 a day, may be entirely relied on. And yet, have we thought of the amazing quantity of water required for these baths? Admitting it were only eight cubic feet to the individual, the amount would be about nineteen millions of gallons, or more than 300,000 hogsheads. Nor

should we forget the number of laborers required, and the great quantity of fuel which would be necessary.

But to the hot, or even the warm bath, as a luxury—and as such for the most part it is used—we are not now endeavoring to call forth the public attention. Still, if such an amount of water could be *heated* daily in the “eternal city,” and if the Egyptians, Turks and Hindoos,—and we might have added, almost all other nations—can afford the expense of so much warm water, cannot those among us who have it in the greatest possible abundance, at our very door—can they not, we say, afford a few hogsheds, daily, of that which is not at all heated.

Is it said that none but the hot and warm baths are ever regarded as a luxury, and that the cold bath, in all its forms, is tedious to all, painful to many, and to some, injurious?

This opinion is founded in mistake; and the mistake arises from ignorance and misapprehension. We do not, indeed, proscribe the hot, the warm, or the tepid bath. All these are often useful for medicinal purposes, as well as sometimes salutary to the healthful. But the cold bath, properly managed, is perhaps still more so; nor is it much less a luxury.

Who is there among us that has not often observed, if he has not experienced, the grateful effects of sponging the wrists, while excessively heated, especially when not greatly overheated? Who has not been refreshed, in a hot day, by washing his head and face in cold water? Who has not been also refreshed by swallowing pure cool water, in small quantities at a time, during the progress of a sultry July day? * And what individual—

* This, by the by, is a species of cold bath—in which the water instead of being applied to the external skin, is applied to that lining membrane of the stomach and intestines, which so readily and powerfully sympathizes with it.

imprudent though he were—who, while greatly heated at labor or recreation, has drank cold water in large quantities, or plunged suddenly into a cold stream, has not found the first effects grateful—the remote evil consequences to the contrary notwithstanding?

Nor is this all. There are hundreds—perhaps thousands—of persons who find cold bathing,—local and general,—not only tolerable, but at times a luxury in its immediate effects, and quite exhilarating in its consequences. Some whom we know, have come, by long habit, to find in the cold bath even in the coldest weather, no sensation but those which are agreeable ones. Little children learn, in fact, in some instances at least in the hot season, to climb into the bathing-tub and immerse themselves for the mere enjoyment of it.

We believe also that most persons may, in time, be trained to this condition. We have, in truth, too many facts before us, to permit us, for a moment, to doubt on this subject. The Author of nature has not, as a general rule, rendered our duty either painful or incompatible with a good degree of pleasure. And even where duty requires a little self-denial or sacrifice at the first, the force of long habit, at least when to this are joined pleasant associations, renders it at length agreeable.

But cold water is not only pleasant, it is healthful. Let it not be supposed that the Creator has bestowed the gift of water on his intelligent creatures in such exceeding abundance, to be used in quantities so stinted as is now common among us. There is a fixed or constitutional relation between water and the surface of the human system, which cannot be wholly overlooked without jeopardizing the interests of that system. And though there are thousands—we fear millions—to whom such an assertion might seem strange, we know it, nevertheless, to be truth; as much so as that two and two make four.

The beneficial effects of water, in its application to the surface of the human body, are of two kinds, **CLEANSING** and **INVIGORATING** ; and one of these effects—usually both—may be, and always should be secured. We are first to speak of water in regard to its **CLEANSING** effects.

During each moment of our healthy existence, there is a constant exhalation of moisture from the whole surface of the human body. So abundant is this moisture, that when by any cause whatever, its evaporation is retarded or absolutely prevented, it appears on the skin in drops.

This latter phenomenon—the accumulation of water on the surface of the human body, in certain circumstances—is so common among us, that it ceases to excite surprise. A person in the condition to which we have alluded, is said to perspire freely, or in popular language, to *sweat*. Indeed, to many it seems not to be known that we perspire at all, except when the matter perspired appears in drops, larger or smaller. Whereas, to repeat what has been already said, there is no healthy moment of our lives when a vapor is not issuing from the whole surface of our bodies—the small spaces occupied by the nails, the eye-balls, and the roots of the hair, perhaps excepted—in very minute particles, in quantity so great as quickly to dim a bright looking-glass when brought very close to it, even to as small a part as the tip of a finger ; and to appear, when viewed through a powerful magnifying glass, like a thick steam or fog, completely enveloping us.

When the perspiration of our bodies thus becomes visible and tangible, it is called *sensible* perspiration ; when invisible to the naked eye, the perspiration is called *insensible*. The latter, or *insensible* perspiration, may be said to bear some resemblance, in one respect, to that moisture with which the atmosphere is always supplied, in which every living thing, vegetable or animal, is as it were, immersed ; and without which, nothing could long exist.

The former, or *sensible* perspiration, or sweat, may be said to resemble that moisture, which, by a sudden change in the temperature of the atmosphere, or in the bodies immersed therein, becomes visible in the form usually called dew.

We have said that no living thing, vegetable or animal, could long exist unless the air were thus replenished with water; and we have more than hinted at what is equally true, that no person could long exist were it not for the constant going on of insensible perspiration. By this, however, we do not mean to say that neither sensible perspiration in the one case, nor dew in the other, are ever useful; though they are most undoubtedly *less* useful in ordinary circumstances than is usually supposed. Our main purpose is to show the greater importance and more imperious necessity of the application or exhalation of that moisture which is not so sensible.

That there are moments of our lives—nay, even considerable seasons, in some instances—when the insensible perspiration of our bodies does either partly or wholly cease, we do not deny. It is this which constitutes, or at least gives rise to the symptoms of what is commonly called a cold; and it is not at all uncommon for fevers and bowel complaints, to say nothing of jaundice, rheumatism and consumption, to result from the same cause. We only insist that in a state of perfect health, and when there is no mechanical obstruction present, the insensible perspiration of our bodies never ceases.

Is it here asked what we mean by mechanical obstructions? They are of various kinds; some more and others less permanent. While we are immersed in a bath, cold or hot, it is quite obvious that the perspiration must be obstructed; and this obstruction we call mechanical. It may also be partially checked by tight or improper clothing. But the greatest, if not the most permanent

obstruction of the kind, however, is produced by particles of dust. For whether the moisture of our bodies—the perspirable matter—oozes out through little pores in the skin, ten thousand of them to a square inch, as was once supposed, or escapes in some other way, one thing is quite certain; viz., that dirt on the skin must prevent its free transmission.

The dust accumulates on the surface of our bodies much more readily, and adheres much more firmly and in much larger quantities than is usually supposed; and than, by many, would be credited. Mr. Buckingham, the Oriental traveller, asserts that from two to three pounds of it are sometimes removed from the whole surface of a person who has for some time neglected bathing and washing in a tropical climate; and such, under some circumstances, may possibly have been the case. For not only does the moisture of the skin favor its accumulation, but so also does the oily substance continually poured out by the small bottle-shaped glands—sebaceous glands, as they are called—which are found in the skin, in great numbers, with their mouths opening on its surface.

Nothing, indeed, can be more obvious to an enlightened and reflecting mind, than the indispensable necessity of frequent ablutions of the body, in some form or other. It will indeed be said—it is often so said—that much depends, in this respect, upon the nature of our occupation. The farmer, the smith, the manufacturer—the individual, in one word, whose employment is most uncleanly—will be thought to need frequent attentions of this kind; while those whose employments are quiet and sedentary, will need them less frequently.

But it should not be forgotten, that although frequent bathing and cleansing are indispensable to those whose employments expose them unusually to dust, yet they are scarcely less necessary to the sedentary, and for the fol-

lowing reasons. The active nature of the employments of the former, and their exposure to the open air, break up the coating of oil and dirt, with which they are enveloped, and render it more pervious to the matter of perspiration, than the thinner but not less tenacious varnish which covers the surface of the sedentary. On the whole, therefore, we regard frequent bathing and thorough cleansing of the skin as of nearly equal importance in all the varied circumstances of age, sex, climate and occupation.

We have alluded to the importance of exposing the skin to the surrounding air. We might have spoken also of the importance of light. Both of these are no less indispensable to the health of animals—and of man among the rest—than to that of plants. And yet who does not know that the latter are not only paler, but possessed of more feeble vital powers when stunted in regard to light and air, than when they are furnished with an abundance of both, especially the last mentioned? Who does not know that they freeze sooner, as well as suffer sooner from violent heat?

How these agents affect human health, through the medium of the skin, we cannot stop here fully to inquire. We must not, however, omit to observe, that whatever changes take place in the lungs, by the action of the air upon the blood in the small vessels of those organs, to purify and renovate it, take place also all over the surface of the body; that in this respect, therefore, the skin may be regarded as a sort of appendage of the lungs; and that if the skin be varnished over with a mixture of oil and dust, so that it cannot perform its office, an unreasonable burden will be thrown upon the lungs, which will thereby be weakened, and predisposed to disease. We have not a doubt that an universal neglect of cleanliness not only favors, in this way, the production of lung diseases, especially of those colds which are so frequent in

our climate, and which often pave the way for other and still more dangerous diseases, but also that it tends to aggravate such diseases of those organs as may already exist, or to whose existence there may be in us—either by inheritance or otherwise—a predisposition.

This temporary suspension of the offices of the skin is, however, peculiarly dangerous to those who are of light complexion, slender form, with a long neck, and narrow shoulders projecting almost like wings, indicating a chest whose internal organs as well as external dimensions are comparatively small and feeble, and therefore poorly prepared to do that work which belongs to other parts or organs. Let all persons beware of compelling the lungs *to work for the skin*; but above all, those of the particular structure to which we have alluded.

It is the importance of exposing our skins sufficiently to light and air, which enhances greatly the importance of a due attention to bathing by those who lead a life of confinement, and supposed freedom from exercise and dust. Let not students, professional men, clerks, merchants, house-keepers, milliners, factory girls—no, nor indeed any living human beings—consider themselves exempted, in any considerable degree, by their employments, from the necessity of bathing. We repeat, with much confidence, the assertion, that as a general rule, to which there can possibly be but few exceptions, every healthy person in the world ought to bathe daily, even for the sake of cleanliness.

But in considering the various kinds or forms of bathing, it becomes necessary to allude to the second great object to be secured by it: viz., its INVIGORATING effects. Bathing should, in all ordinary cases—and indeed may—be so conducted as to strengthen or invigorate both the mind and the body, at the same time that it performs for the latter the indispensable work of cleanliness.

We are usually, perhaps always, invigorated by bathing when it is followed by what is called in medical books and by medical men, a *re-action*. This re-action is indicated by an increase of warmth, activity, greater or less pleasure and strength, on coming out of the bath. If, on the contrary, we feel more dull or dispirited, and are more pale or feeble than before, and if this state of things is not easily removed by a little brisk exercise, we are not only not benefited, but sometimes positively injured, and may therefore conclude that something is wrong in the attending circumstances of the exercise. These it will be therefore necessary for us to consider; and this opens the way for particular directions to those who wish to set about, at once, the discharge of an imperious duty.

WHEN TO BEGIN.—As we have already suggested, begin now, at this pleasant and beautiful season. Do you say you cannot bear the shock, or it is inconvenient, or you have no time, or you do not know which form of bathing is best for you to begin with—the shower bath or the tub bath, the warm bath or the cold bath, &c.? On all these points and several others, we shall endeavor to render you some assistance in the remarks which follow.

EARLY HABITS.—Some regard must be paid to former habits. If your constitution of body is what is usually called delicate—if you were brought up by either parent, as in a band-box—if you have been always accustomed to tight, warm rooms, warm clothing, soft feather beds, over-heated food, &c.—if you have never washed any thing more than the tips of your fingers, in your whole life, and these only in warm water—in short, if you have either been babied all your days, instead of being treated like a rational being, or on the other hand, neglected instead of being educated or trained in the way you

should go, then, however important the work of immediate reform may be to you, it will require considerable time to inure you to that which, to an old soldier, would not be at all difficult. And although we have seen the most delicate persons, both male and female,—where their confidence in the prescriptions of their physician was strong—commence a course of cold bathing, by his advice, in the severest part of the winter, and under many of the most unfavorable circumstances, yet we would not, as a general rule, advise to such a course, as it might, in a few instances, be attended with some danger.

How to COMMENCE.—No individual can probably be found—even amid that general, practical dread of water among us which seems to amount, almost, to a national hydrophobia—who does not at least wash the tips of his nose and fingers once a day.* Now let those who are fully convinced that the whole body ought to be washed daily—if it be in cold weather—begin by washing something more than the fingers, or the nose. Let the wrists be washed to-day; to-morrow, perhaps, let the washing be extended a little further towards the elbows and the neck; in a few days let it be the rule to wash the whole arms and neck; and finally, let the breast and shoulders be assailed. If there is full confidence in the utility of bathing, all this need not require more than a week or a fortnight.

Or if it be preferred, another method will answer equally well; which is, to begin by dipping a towel in

* We have indeed known a few individuals, of both sexes, who for weeks together did not touch their faces with water—hot or cold; some for fear of spoiling the beauty of their skin, but others from mere negligence and slovenliness. Creatures of God, they indeed were; but hardly deserving the name of *rational*s!

water, and after wringing it partly dry, carrying it gradually—that is, extending it farther from day to day—over the parts of which we have spoken. In either case, the battle may be considered as more than half won when we can resolutely and fearlessly and uninjured wash thoroughly the upper half of the body. The washing of the lower part of the body will come in soon, almost as a matter of course.

We have never known an instance, even in the case of the most delicate female or infant, in which a re-action could not be secured, if the hitherto unexposed parts of the system were assailed in this gradual manner. Most of us, no doubt, have heard of the reply of the naked Scythian to Alexander. The latter, having asked the former how it was possible for his countrymen to go without clothes in so cold a climate, was answered by another question—How can you go without any covering on your face? My face is used to it, was the reply. Well, then, consider us as all face, replied the Scythian. In like manner, he who comes to the habit of cold bathing gradually, finds little more difficulty in securing a general re-action, or glow of warmth, on the surface after it, than they do who only wash their hands and faces, in securing a re-action in *those* parts. And yet, who ever saw a pair of hands or a face that was not both redder and warmer immediately after washing than before?

TEMPERATURE.—Some may suppose that the difficulty of inuring the body to cold water, in those cases to which we have alluded, might be more readily overcome by the application of water, at first, of a higher temperature, and afterward gradually lowering it. But this is a mistake. The application of warm water to parts of the surface to which we have not been accustomed to apply water in any form, will be less likely to be followed by a sensation of

general warmth, than will the application of this fluid at a temperature at least as low as that of the surrounding atmosphere. In the application of warm water, the first sensation, it is true, will be more agreeable, but this will soon be followed by a sensation of coldness, greater or less, according to circumstances. The warm water appears to weaken the skin—or rather to diminish the nervous energy of this membrane—and thus to prevent that re-action and consequent warmth which so often follow the application of cold water. We repeat, therefore, the general rule; which is, that those who have never been accustomed to cold bathing in any of its forms, and who fear the consequences of a beginning, should never begin with water warmer than the air which surrounds them. Indeed, we have usually found that the feeble and delicate endure it best at a temperature much lower still. The stronger the sensation of cold, the greater the re-action and consequent warmth, provided always, that the effect of the cold is not overwhelming or too long continued; but this will never happen if we proceed in the gradual manner above mentioned.

HOW LONG TO BATHE.—We have alluded to the danger of continuing the application of cold water too long. Some will be inclined to think there is a little clashing between the doctrines indicated by this caution, and the idea of making the bathing a cleansing process. It ought, however, to be remarked, in this place, that we do not think it advisable for the delicate—those who find it difficult to commence the work of daily bathing in cold water—to attempt to bathe and wash at one time, till the habit has become confirmed by the lapse of several months. They should use a full—not a partial—warm bath once or twice a week for the purpose of washing. The more sudden the application of the cold water by the class

of persons of whom we are now speaking, to the part or parts unaccustomed to it, and the sooner it is followed by wiping the skin dry, by a little friction, and by warm clothing and exercise, the better.

It is the neglect of this rule—an utter ignorance, rather, of its existence—that, more than any other single thing, has led many to the premature conclusion that they cannot *endure* cold bathing. There are few—we repeat the sentiment—who cannot endure it, if they begin right. For the benefit of those whose constitutions are either very delicate, or who fancy they are so—for the more healthy and robust need not, we repeat it, be so very cautious—we would recommend a course something like the following. Let not the reader complain of tediousness, if, in order to be understood, we repeat some of the ideas we have already presented.

Select for the purpose of commencing the habit of cold bathing, that hour of the day, and those circumstances in which you find yourself, in general, most cheerful, most vigorous, and in the most happy temperature. Or if you are a little warmer than usual, it is no matter, provided you are not fatigued or depressed in mind or body. The season to which we refer will, probably, be found to be about the middle of the forenoon; though with many, it may be a little earlier; and with a few, somewhat later. We are fully aware that the moment immediately after rising is recommended by some writers; but we prefer the time we have just mentioned. We would begin, moreover, in one of the warm months, June, July, August or September.

Having then selected your hour, remove your clothing, and wash your hands and face well with the *coldest* water—for this we must again say we prefer—you can readily find, and then after wiping them dry with a coarse towel, rub the whole body briskly with the same cloth. Let the

friction be not only brisk, but somewhat severe. This, for the first effort, will be sufficient. The next day not only wash the hands and face, but also the wrists; and wipe again, adding friction as before. The third day the washing may be extended to the elbows; the fourth, to the shoulders; the fifth, to the neck; the sixth, to the upper part of the chest; the seventh, to the whole chest; the eighth, to the whole head; the ninth, to the back, &c. In every instance, the application of the water with the hand or towel (for if you choose, the water might be applied with a towel wrung partially dry) and the friction, should be as rapid as possible. With the delicate and tender, it is only when they have become somewhat inured to the practice, that they may venture to be more slow, and thus combine the two purposes for which water is applied to the human body; viz., cleanliness and an increase of vigor.

PROPER HOUR OF THE DAY.—We have alluded to this part of the subject in one of the preceding paragraphs, but not so particularly as its importance seems to us to demand. Many, we have already said, prefer to bathe at rising. And if the question be whether it shall be used at that time or not at all, we should advise the same course.

Immense mischief has been done, and a prejudice, almost insurmountable, has been raised against cold bathing, in consequence of its abuses. It is common in many parts of the country for young men—and sometimes old ones—to bathe every Saturday night about sunset. They retire to some stream, frequently a cold one, or to a shaded mill-pond, and there, partly as an amusement, partly for the purpose of cleanliness, and partly to acquire the art of swimming, they plunge into the water, and remain in it for some time. The individuals who bathe thus, are

usually laborers, who, having been employed diligently—sometimes violently—during the whole week, are in the very worst possible circumstances to receive benefit from it. Saturday evening is the worst time in the week which could be selected for such a purpose, for it is precisely at this period that the system is most debilitated, and the body and mind are most oppressed by fatigue, excessive heat, and errors in eating and drinking; and consequently least able to withstand the chilling effects of the cold. A few persons may be found who are afraid of the consequences, and to avoid them, sit down on the bank of the pond or stream and cool themselves before they venture in; but this does not at all lessen the danger. The custom is of itself wholly wrong, and deserves the severest reprehension.

Nor is Sunday morning a more favorable season—to say nothing of breaking in upon the Sabbath—although we have known many who selected it. The early part of the week, say about Monday, Tuesday or Wednesday, is the best for these things, if attended to at all; and the best hour—to repeat an opinion already advanced—is about the middle of the forenoon, when this hour is at our command.

It will undoubtedly be objected, that if the season for swimming we have mentioned, viz., Saturday night and Sunday morning, is to be rejected because it is wrong, physiologically—then multitudes who now learn to swim at those seasons, would be obliged to dispense for life with this important art, for their labors are so unremitted as to leave them no other opportunity for this purpose. We grant that such might be the result; but if swimming be as important an art as this objection supposes—and we have no doubt it is so—another time ought to be devoted to its acquisition.

Some will doubt whether there is, after all, much dan

ger to the health from the practice we are opposing ; and will perhaps point to many elderly persons who are healthy, notwithstanding they always, when young, resorted to it. Our reply to such persons is, that the individuals to whom they refer are only healthy, at most, in spite of their erroneous habits ; and not because the habits themselves were right ; just as many aged persons appear to be healthy, notwithstanding the daily use, for a long series of years, of alcohol, tobacco, opium, or other equally pernicious drugs or substances. But the real truth, in both cases is, that the individuals are not healthy ; and we are willing to relinquish all our claims to correctness of sentiment on the whole subject in question, when a person of fifty or sixty years of age can be produced who has either used, daily, for a series of years, any of the substances we have named above, or bathed for the same length of time, and in the manner above described, either Saturday night or Sunday morning, and is yet perfectly free from disease in every form. Such a person, we are confident, cannot be found in the world. But if not—if all such persons are more or less diseased—then who shall say that their complaints did not arise from the causes we have mentioned ? They certainly had a cause of some sort or other. They sprung not, we say again, “from the ground.” Even if the disease is nothing but a slight periodical headache, an occasional twinge of rheumatism, a stitch in the side, a slight tenderness of the abdomen, acidity of stomach, habitual costiveness or relaxation, or piles, a tendency to cold, or to undue fatness or leanness of body, it is nevertheless a disease, and had its causes ; and those causes might have been avoided or prevented.

FORMS OF BATHING.—But to return more specially to the subject of bathing, in its varied forms. Much indeed

which might properly come under this head, has been anticipated, but much yet remains to be said.

The question is often asked—But which mode of bathing is best? To which we might make two replies, both true, and yet both a little paradoxical. We might say, Every mode is best; and we might also say, Neither is best. Or in other words, All modes are good in their place, but what is best for one, is not always best for another; and no mode is good in all circumstances. Much depends, too, on the object for which we bathe. If our sole object were cleanliness, the warm or rather the tepid bath would, most undoubtedly, be the best. On the contrary, if the invigorating effects of a re-action are the only, or even the main thing aimed at, then the cold shower bath, or a plunge in cold water would be the best for those who were already robust and healthy.

Perhaps it may be said, that as a general rule, the cold shower bath, if persisted in daily, is as useful as any; for while with the aid of a good deal of friction, it subserves, in no small degree, the purposes of cleanliness, it secures at the same time, in a most eminent degree, all the benefits of a re-action.

The medicated bath—even when the only medicinal substance used is salt—the hot bath and the warm bath (proper) should be used solely for medicinal purposes. We do not say they should never be used, except when prescribed by a physician; but we do say, that in strictness of language, they are always medicines.

The tepid bath, if used by the healthy, should be used about two or three hours after the evening meal, that is, just before going to bed; or about three or four hours after dinner, and an hour or two before supper. The circumstances of a few individuals and families may indeed require a different course, but not often.

The cold tub bath, whenever its use is indicated, except

in hot weather and in cities or towns, where convenient places for the purpose cannot be found, should usually give place to the more free exercise which can be obtained in some brook, river, pond, lake or sea. Great care ought to be used, however, in swimming, not to swim too long. Many who might go home invigorated in mind and body, by swimming five or eight minutes, will go home after swimming twenty or thirty minutes, languid, and cold, and stupid; and wonder what ails them. There is so much mistake abroad on this subject, that notwithstanding all we have said, in another place, we must dwell upon it a little longer, and endeavor to make it a little plainer.

There is a sort of tide in relation to human vigor. When we first rise in the morning, our blood and spirits, which had been at a very low ebb the preceding evening, are partially restored to their primitive condition, and there is an approach to full or flood tide. This is indicated, not only by our feelings, which are cheerful and joyous—so much so that mistaking the causes for external ones, we talk a great deal, the world over, about the pleasantness of the morning—but also by an increase of strength in the pulse, as well as increased strength of the lungs and quiet respiration. But the tide of the blood and animal spirits is not yet quite full. Moderate exercise and a light breakfast, followed also by a diligent application to business in some useful and active employment for a time, render respiration and circulation somewhat slower, but yet stronger; and at about two or three hours after breakfast, the system reaches what we have called full or flood tide. Then it is that the heart beats strongest, the respiration is fullest, the energy of the brain and nerves, and indeed of every vital part, is increased to its highest point. This period varies considerably in individuals of different constitutions and habits. In the feeble, it often arrives sooner; and in the stronger, later. In a

person, moreover, who rises at four, and breakfasts at five, it cannot be expected to arrive so soon after breakfast as in one who rises at the same time and breakfasts at seven or eight. All therefore we can say is, in general, that some two, three or four hours after the morning meal, the system reaches its highest point of health and strength, and is best able to resist any attacks made upon it, whether by cold water or any thing else.* From the period above-mentioned, till twelve, one, or two o'clock, there is a slight increase of the force of the circulation and respiration, accompanied by a corresponding loss of general strength and vigor—an ebbing of the tide, as we have called it. Dinner and its accompanying rest and relaxation, especially if the dinner be proper in quality, and not excessive in quantity, restores, in part, our strength and vigor, but not entirely; and it is not long after dinner before the *ebbing* becomes considerably rapid again; nor is it greatly interrupted by the refreshment of the third meal, or the relaxation of evening; although the decline of strength and energy is much less rapid when the supper is early and light, and we retire to rest in good season.

With this explanation, we are now prepared to say with more distinctness, what we have already said in part, that the best time for the cold bath, where the individual can spare the time as well, is just before the arrival of what we have called *full tide*; because then it is that the vital powers can best resist the shock of the cold, on its first application, and rally under it.

* From these physiological views may at once be gathered the principal reasons why the morning, or at least the early part of the day, is the best time for study, or indeed for any thing else; and why any thing which is likely to draw particularly hard upon the powers of the mind or body, should be attended to, either early in the morning, or during the forenoon, rather than in the afternoon or evening.

For want of proper knowledge on this subject, thousands have been greatly injured by the cold bath, who might otherwise have been as greatly benefited by it. We have seen many a student who, having learned from books or from some half-physician that the sanitary effects of cold bathing, in the morning, were sometimes truly wonderful, has commenced the practice without proper precaution, attended to it at too early an hour, and remained too long in the water, and thus not only defeated his object, but greatly debilitated his whole system, if indeed he has not destroyed himself for life.

We do not mean to say that the strong and robust may not often withstand the shock of the cold bath when administered while the powers of the system are already ebbing;—this we have fully conceded. Nor do we say that no person whatever should bathe in cold water before breakfast. All we mean to do is to point out the best hour, both for the benefit of those who are just commencing the practice, and for those who are constitutionally timid and feeble. As for those who are already strong and courageous, and who wish to use the bath daily, not so much for its strengthening or *tonic* effects, as for the purposes of cleanliness, and who have it not in their power to choose their hour, but must either bathe when they first get up or defer it till noon, it would undoubtedly be well for them to bathe at rising. It is thus easily and readily attended to; the habit is soon formed; and what was at first not a little troublesome, becomes not only second nature, but rather pleasant than otherwise, and greatly refreshing.

But is it easy, always,—we shall be asked,—to have the means at hand of using the shower bath? Not if we are travelling; nor is it always convenient in other circumstances. To those who are stationary, however, it is not at all difficult. We have seen various forms of adminis-

tering the shower bath which were very simple. The simplest we have ever known consisted simply of a large coarse basket suspended a little higher than the head, and a pail. The basket was suspended in such a manner, that it could be readily turned down upon its side, and kept in that position until a pail of water had been placed in it. Then when all was ready, by pulling a cord the basket was suddenly restored to its upright position, which of course would overturn the pail of water and permit its contents to fall in a violent shower through the basket. No one surely needs to excuse himself on account of expense or inconvenience, from the discharge of a duty so easily performed.

We have admitted elsewhere, that to the feeble there is another and perhaps a better way of commencing the application of cold water than in the form of a shower; though even here there is considerable room for beginning gradually. We can let the water fall on our head and arms at first, or on our shoulders or chest, or on our lower limbs, deferring the full application of it for several days. But to the timid and feeble, and to those who are travelling abroad, there is a method always accessible, which is nearly as good as the shower bath, and for the purposes of cleanliness, on the whole preferable. Indeed, for all those who are healthy, and whose principal object is cleanliness—especially during the summer and autumnal season, we like it quite as well as the shower bath. We allude to the application of cold water with the sponge, with a cloth, or with the hand.

A bowl of water can always be had, or almost always, and a towel. The towel, if used to apply the water, may be wetted and wrung partly dry before it is applied. The sponge, if used, may be used in a similar manner. The manner of using the hand, we need not describe. Indeed, the whole process has been pretty fully described

under another head, and need not be repeated in this place.

In speaking of the general importance of bathing—especially cold bathing—we might have said something of its effects in hardening the system against cold; and in particular, against *taking* cold. These are certainly very striking; did our limits permit, we might dwell at considerable length on the subject. We might fill several pages with the credible statements of individuals who, even late in life, have entirely broken up a confirmed habit of taking cold by inuring their systems to cold bathing. We honestly believe that most persons may thus prevent at least nine-tenths of their colds; and as the latter are the source of a large proportion of the diseases of our unsteady climate, we see not why we might not, in this way alone, prevent as much as half of the sickness and suffering, and premature death among us.

We might have spoken also of the importance of cold bathing, in summer, as a means of keeping us cool. This result is accomplished in two ways.

First, Directly. Those who have made the experiment, need not be told that they are obviously cooler for hours together, after using the cold bath in a hot summer morning, or during a sultry summer forenoon.

Secondly, By the increased physical strength it gives us. It may not be generally known—indeed it seems quite obvious that it is not—that whatever increases our strength and vigor permanently, enables us to bear better the extremes of heat or cold. The cold bath, therefore, hardens us not only against the cold itself, but also against an excess of heat; and enables us to endure better our toil under a sultry sun.

We have spoken of cooling ourselves, directly, by the application of cold water to our bodies. Now there are individuals among us, who, not understanding the prin-

ciples which we have laid down above, suppose that all going into water, in hot weather, when there is the least degree of unnatural heat about us, is decidedly injurious. But according to Drs. Rush and Coffin, as well as many other writers, there is no danger from going into the water, or from sponging ourselves with it, however cold it may be, provided it is done at what we should call—in our own way—the full tide of the system. Men who are laboring hard and perspiring freely, if not fatigued, may apply cold water to their bodies, or drink it in small quantities, or even plunge into it, provided they do not sit still afterward, so as to prevent a re-action. Let the individual who rises at four o'clock, labors moderately till six, then eats breakfast, then labors on again till eight or nine o'clock, till he is in a free perspiration—let him, we say, if he chooses, plunge into cold water, we care not how cold it is, provided he does not stay in it but a moment; but let him not do this an hour or two later, when his hard labor and free perspiration have reduced his strength. Nor let him do it, above all, in the afternoon, or towards evening. Alexander came near destroying himself by plunging into the cold waters of the river Cydnus; but it was at the close or nearly at the close of a long and severe day's march. Had he done it when he had only marched six, or eight, or ten miles in the morning, the effect would have been quite different. In short, the great rule in this matter is, always to bathe so as to secure a glow of warmth after it. If this glow or re-action can be secured, we are always safe; if not, there is always greater or less of danger.

Let us now sum up the rules or principles of this essay in as few words as possible.

1. Daily bathing is indispensable. First, That the skin may assist the lungs properly, in the great work of purifying the blood, and that our respiration may be easier

and better. Secondly, That it may perform properly, the work of perspiration. Thirdly, That it may transmit healthful sympathies to the other parts of the system. Fourthly, To prevent diseases of various kinds. Fifthly, To harden the system, and enable it to bear more easily, the extremes of heat and cold.

2. The cold bath—either the shower bath, the plunge in the tub, or stream or pond, or the sponge or hand bath—is in general the most invigorating, besides being most accessible.

3. By using suitable precautions, almost any person, however delicate or tender, may learn to use the cold bath, both with safety and advantage, in any of its forms.

4. We should endeavor to bathe when both body and mind are in the highest healthy state of vigor.

5. We should never use the cold bath when the temperature of our bodies is below the standard of health. A few degrees above are far more safe than a single degree below.

6. We should never remain in the water, or wet with the water, any longer than is just necessary to secure the ré-action or glow of warmth.

7. The best hour for cold bathing, in every form, is about half way between breakfast and dinner; but the hour of rising, when more convenient, is by no means inappropriate. For the warm or tepid bath, the hour of retiring for sleep is one of the best.

8. We should seldom, if ever, bathe immediately after eating a meal.

One question will, no doubt, still arise in the minds of many; and it is certainly an important one, and deserves a few moments of consideration. This question is, whether the cold bath should be continued daily when we are unwell, as with a severe cold, sick headache, an attack of rheumatism, &c.

Nothing is better proved, than that the omission of the cold bath for a week or two, in the case of those who, before adopting it, were subject to a particular complaint, will ensure its return; and also that on resuming it the complaint will often immediately disappear. What, therefore, will cure an individual cannot be supposed, in any circumstances, as likely to aggravate his disease. And what we should thus infer, from the very nature of the case, is found to be true in point of fact. Multitudes not only continue the cold bath during the attacks of various complaints to which they are subject, but even derive benefit therefrom. Many a cold has been mitigated by persevering in the use of the sponge or hand or shower bath, as well as many an incipient attack of rheumatism or fever broken up. Some parents go so far in this matter, as not to omit the bath for a single day, during the whole progress of measles, hooping cough, mumps, &c., in their children. Perhaps this is going too far, but we cheerfully confess that we have never known any mischief to follow from what we should once have thought a very bold practice.

We press the consideration of this subject on all classes of the community, especially on parents. There is no danger to any person, as we have already seen, in the gradual adoption of the habit of daily cold bathing. But the benefits to be actually derived are much greater to the young than to those whose habits are already formed. Begin to wash a child daily—first with tepid and afterward with cold water—as soon as he is born, and continue it faithfully through infancy and childhood, and you will find, that as in other things, so it is in this, he will hardly depart, in youth, manhood or age, from what he was trained to prior to those periods. The blessings which would follow from keeping clean so large an extent of surface as that of the human body, and from hardening

and invigorating the system through this medium, are absolutely incalculable. And the subject is the more important, because it is so exceedingly neglected by a community like our own, who, though they can best *endure* its neglect, would at the same time be best repaid for all the trouble and expense to which so salutary a practice would expose them. We would that in erecting every house, all the necessary apparatus for cold bathing, in every form, and even for tepid bathing, were deemed as indispensable as a parlor or a bed-room; and that in building a city or village, public baths were as regularly established as public walks, or commons, or buildings. When will the laws of God in these matters be attentively considered and duly obeyed. When will mankind endeavor, in all their employments and arrangements, to glorify God in their bodies and spirits which are his?

TOBACCO AND ITS ASSOCIATES.

TOBACCO AND CANCERS.—An aged friend of ours died a few weeks since of cancer of the tongue. She had been regarded, all her life long—and she was nearly seventy years of age—exceedingly remarkable for her temperance. Why then should it be her lot to suffer so terribly, we exclaimed, at first thought, from such a painful and protracted disease?

But when we remembered that the best surgeons of our day—such men, for example, as Drs. Warren and Mussey—state* that they have seldom met with a cancer of

* See the Bost. Med. and Surg. Journal for June 5; from which we learn that Dr. Warren has never seen a *single case* of the kind, and Dr. Mussey but *one*.

the tongue or lips, in a person who was not in the habit of using tobacco, and when we recollected that our aged friend was a great tobacco smoker, and that the cancer made its appearance in the very spot where, if caused by the pipe, its appearance might have been expected, we were no longer at a loss for the cause.—Let the laws of life and health and disease be faithfully studied and observed, and we shall ere long cease to wonder at many of those cases of strange—sometimes anomalous—and fatal disease which now occur, and which are so often wickedly referred to the mysterious dispensations, not to say arbitrary inflictions, of the Creator.

TOBACCO AND MINISTERS.—The Boston Medical and Surgical Journal teems, of late, with discussions on the fashionable throat disease in ministers; but while various causes of this disease have been mentioned—tobacco among the rest—one medical man, over the signature “Senex,” not only assures us that the use of tobacco is compatible with health, but also that smokers are “the most perfect specimens of health, vigor and energy.” He appears desirous, moreover, of encouraging the use of wine, cider, beer, and tobacco, and the moderate use of flip or toddy. Some of these, he rather thinks, conduce to longevity; and the beneficial influence of all of them on ministers, especially tobacco, cider and wine, “surpass,” as he believes, their “inconveniences.”

TOBACCO AND PHYSICIANS.—Does the reader wonder, on reading the preceding paragraph, at the strange phenomenon of a medical man commending the habitual use of tobacco and other drugs, by the healthy minister? The secret is revealed by Senex, himself. After commending the use of tobacco, in the case of ministers, he adds—“Among soldiers, sailors, and perhaps physicians, I am

led to think its benefits surpass its inconveniences." Oh yes; "perhaps among physicians;" and so Mr. Senex will *perhaps* be set down a good man, and attain to unusual longevity.

The editor of the Journal in which Senex writes—a defender of tobacco too—seizes on these statements with eagerness, and attempts to corroborate them. Both of them, it seems, had friends, relations, or acquaintances, who, notwithstanding their use of tobacco, reached the age of seventy, eighty or ninety years; and the father of Senex himself, reached the full age of seventy, and "preached till within a year or two of his death."

But how much does all this prove? How much would it prove in favor of the use of alcohol, if *we* were to state—and we might do it—that we had one ancestor who used spirits freely, *very* freely, forty years, and yet lived to enter his eightieth year; another, who used all the common extra stimulants, and yet reached ninety-seven years; and a neighbor who used opium in amazing quantities all his life time, and yet attained to eighty? Would such occasional, insulated facts prove the daily use of spirits and opium to be healthful? Do they not strike us, and are they not noticed every where and by every body, from the very fact that they stand out as prominent and singular exceptions to the general rule? Is it wise to build general principles on exceptions to rules? Will sensible and intelligent men attempt, in this way, to prove that the daily use of tobacco is healthful? Will they do this, especially, in the nineteenth century, and in the full blaze of that better light and knowledge which they ought to possess on the subject?

UNITY OF FOOD.

ONE of our correspondents, in his kind endeavors to cure us of some of our heresies, suggests as a principle for our consideration, the question whether, in regard to food, more does not depend on its unity than on its quality. He takes the affirmative, and presents for our consideration the following supposed facts.

“A distinguished Swiss physician, who was seven years in captivity in Paraguay, says that while in that country, he knew a diet almost exclusively of flesh, produce a most vigorous and florid race of men, even in a hot climate. He also knew a dyspeptic, in his own country, who was cured while living on nothing but cabbage fried in fat. Com. Barron, of our navy, was cured of a chronic disease by living solely on fried oysters. A certain English physician sometimes makes a full meal of nothing but raw cabbage; sometimes of gingerbread only; and sometimes of nuts;—and tells his patients they must take care to eat *enough* of one thing—as much as they can—and that a little is more indigestible. The same physician, however, recommends a bottle of wine daily at dinner, with as many nuts and raisins as can be eaten, as a remedy for consumption, besides brandy and water. In one of his patients, a six weeks course of this kind was said to eradicate every symptom of the disease.”

“What a lottery of riddles is medicine!” my friend exclaims, after this exhibition of what he calls his facts. He might have said, rather—What a creature of credulity is man; and what a bundle of eccentricities, both of physicians and their patients, may be easily and everywhere collected! Who does not know that sick patients will often recover, if they “have faith,” in despite of the worst treatment, both as regards diet and medicine.? Our cor-

respondent sets out with his facts to establish his principle of unity of food, at the same meal—a principle for which we have long contended ; and to which we have long adhered pretty closely, in our own practice—but how far are his isolated facts, to say nothing of their improbability, in some instances, from proving what he supposes !

We might also gratify those who have the *bump of credulity* pretty largely developed, by relating a few facts which we find in an English periodical for the year 1780. We are told that the following men lived to the ages respectively annexed to their names, on butter and cheese—two very doubtful articles. Henry Jenkins, 169 ; Thomas Parr, 152 ; Richard Lloyd, 133 ; John Bailes, 128 ; Margaret Paten, 138 ; M. Bright, 105. It is, however, very properly admitted, that they ate much *coarse bread with their cheese*, and drank little if any drink all their lives long, which was stronger than water. We expect such an admission is necessary to qualify some or all of the stories or facts of our worthy correspondent. We have heard of travellers living wholly on onions, but it turned out that they ate plenty of bread with them ; and the Arabs, who used to be said to live on a small quantity of gum arabic while crossing their deserts, are known now-a-days, to feed quite freely on locusts or camels' milk, or both ! We suspect that, for the most part, people will live rather longer and better on fried oysters, or raw cabbage, whenever they add to them an abundance of good bread or milk.

LIBRARY OF HEALTH.

BREATHING BAD AIR.

DR. FRANKLIN, in his usual humorous manner, but with his accustomed gravity, relates, in one of his essays, the following anecdote ; a principal object of which, no doubt was, to show the influence which pure air has upon human health, happiness and longevity.

“ It is recorded of Methusalem, who, being the longest liver, may be supposed to have best preserved his health, that he slept always in the open air ; for when he had lived five hundred years, an angel said to him—Arise, Methusalem, and build thee a house, for thou shalt live yet five hundred years longer. But Methusalem answered and said—If I am to live but five hundred years longer, it is not worth while to build me a house—I will sleep in the air as I have been accustomed to do.”

But Dr. Franklin insists, still more strongly, on the importance of breathing pure air. He says—Confined air, when saturated with perspirable matter, will not receive more ; and that matter must remain in our bodies and occasion diseases. And again, in telling us what he means by perspirable matter—for the doctor was very much in the habit of explaining his own terms—he says, we generally eat about twice as much as nature requires ; and the superabundant matter, in a healthy state of the body, and amid free air, amounting, as he appears to esti-

mate it, to about *five eighths*, or rather more than one half of what we eat, passes out of the body through the pores of the skin, and through the fine thin membrane which lines the inside of the lungs. This moisture, if confined in the body, for want of free air to be applied to the surface of the body, and to be inhaled or drawn into the lungs, becomes putrid, as he supposes. "Living bodies do not putrify," he says, "if the particles, as fast as they become putrid, can be thrown off; but in a close room, we receive them again and again, though they become more and more corrupt. A single person is said to spoil only a gallon of air a minute; and therefore it requires a longer time to spoil a chamber full. It is done, however; and many putrid disorders have hence their origin."

Now although the physiology of the human system is somewhat better understood now than it was in Franklin's time, yet there is much of truth in what he says; and had mankind been wise enough to heed his cautions, the consequences would have been most happy. Whether the sad accidents, and the sudden and protracted diseases, and the pale faces, which are so often seen and known among us, are caused exactly in the way he supposes or not, no one now doubts their frequent existence. Nor will any one, who has the least claim to philosophy, doubt the importance of pure air, and the deleterious and often fatal consequences which result from the want of it.

One single glance at the world we live in—at least with the eye of plain common sense—will show, in some good degree, the importance of the truth we are now trying to inculcate. Look at our farmers and other laborers who are almost always in the open air. Notwithstanding their ignorant abuse of their constitutions in a thousand ways—some of them among the more flagrant which can be found—their constant exposure to the open air gives them that "firmness of nerve" (muscle, rather,) "and energy of thought," for which, other things being equal, we look

in vain elsewhere. We will not say that the average duration of their lives, or the rapidity of their thoughts, is quite equal to that of a few other classes of society, for, according to the calculations of Dr. Caspar of Berlin, clergymen and merchants live a little longer in Europe than farmers; and we know that, as a general rule, they think faster. Yet we know also that true length of life is not to be measured by mere length of days. We doubt much if the average amount of immunity from suffering be not in favor of laborers, notwithstanding their gross errors and abuses; and we attribute it, in a very large degree, to their exposure to the open air. It is not the smell of the earth, as has sometimes been vainly supposed, for the effluvia of decomposing vegetation are rather injurious than healthy; and the breathing of so much dirt as farmers and other laborers are sometimes liable to breathe, is decidedly hurtful. Nor is it their great amount of exercise, for many persons who are employed within doors have quite as much exercise, and of a kind too which is calculated to bring into play, nearly as well, all the moving powers of the system, and yet they have not such hard and firm muscles as the former have. No; it is the air principally, though we will not say entirely. It is in some degree, we must confess, their freedom from that "wear and tear," and "vexation" of mind and soul, to which men of almost all other occupations are more subject than they, and their general if not uniform cheerfulness.

But we must enter a little into detail in regard to the structure of the human lungs and skin, and the philosophy of the atmosphere, before we can well understand the nature of the wonderful relation which subsists between them.

The atmosphere, in which we live and move and breathe, surrounds our globe, as a belt, to the height of about forty-five miles. If the earth be supposed to contain

200,000,000 of square miles, and 800,000,000 of inhabitants, this would give a dividend to each human individual of about eleven cubic miles of air. We say to each human individual, because other animals breathe it as well as men—even, to some extent, the tenants of the great deep. If we should take it for granted, that the animals use, in the whole, ten times as much as man, there would still be left to each person at least one cubic mile, which, at an average of half a pint of fresh air at each inspiration or drawing in of the breath, would last us many years, provided even that no changes were going on to renew it. We shall see presently, however, that such is not the fact, but that there are processes in nature constantly going on to renovate it; so that were the population of the earth to become a hundred or a thousand times as large as it now is, there could never fail to be a full supply for every individual, could he be induced to use it.

This atmospheric air, in which we are immersed all our lives long, is not a simple gas, as the chemists would say, but a compound one. It is made up of two gases or airs, called oxygen gas and nitrogen gas, in very different proportions. The former seems to be the vital or principal part of the atmosphere; for the other part—the nitrogen or azote—is added to dilute it, as we would dilute, with water, a liquid which would otherwise be too strong for us, and injure us. In fact, the analogy here alluded to is pretty close; for oxygen, though it is the part of the air which supports life, would be quite too strong for us to breathe by itself. We might feel exhilarated and happy a short time; but after a little while we should be exhausted. We should *live too fast*, and should, in consequence, in a little time, be completely worn out and perish. But by mixing about four fifths of nitrogen, or innutritious air, with one fifth of the vital or nutritious air, the Creator has formed a mixture for our use, which,

if kept always in a perfectly pure state, and if there were no other causes of human disease, would enable us to last to old age, and to enjoy health as long as life.

Of this mixture we draw in or inhale from half a gill to half a pint—the quantity varying according to age and other circumstances—at every breath, all our lives long. As soon as it is drawn in, if the lungs are in a perfectly healthy state, and are not compressed or crowded by too tight a dress, too full a stomach, or by a cramped position of the body, it is diffused or spread over all the hollow cavities or cells with which the lungs so wonderfully abound, to come in close contact with the blood, and to form it and purify it. In order however to understand this part of our subject, we must say something of the blood itself, as well as of its circulation.

This fluid, in quantity amounting to at least five or six gallons in the adult, goes from the heart to the extremities of the system, and returns again, in less than four minutes. It goes out comparatively pure; and after having its finer and more perfect particles taken out to promote our growth, or to supply the constant “wear and tear,” or waste of the various parts through which it passes, comes back more or less impure. It goes out also highly endowed with vitality, (for the blood may be said to have life as much as the solid parts of the body,) but it comes back with a considerable loss of that vitality. It is somewhat cooler, and would freeze sooner than when it set out on its journey. Were there no means of restoring its heat, and life, and purity, it would go the round of the circulation but a very few times before it would not only be unfit for circulation, and for the nourishment of the body, but actually poisonous to it. Either the carbon with which it becomes loaded, and which gives it a very dark color, or something else in it, would spoil it for the purposes of sustaining life, and we should soon perish.

Nor is this all. The chyle which is formed from our food, which is at first either milky or pearly in its appearance, and which is ultimately to become blood, cannot become so by merely circulating in the veins into which it is poured, nor by going every four minutes the whole round of the circulation, including the heart and the arteries. There must be some process or processes both for forming the blood and for *reforming* it.

This twofold work is accomplished in the lungs. The whole mass of the blood not only goes out to all parts of the body and back again every three or four minutes, but as soon as this grand general tour is finished, it makes a shorter, but more special journey, through the lungs, whence it returns again to the heart. In this journey it is that the work of forming as well as of renovating the blood is accomplished.

We have spoken of air cells in the lungs. Now it would be difficult to describe the inside of the lungs in such a way as to make the subject intelligible, in a short article like this, especially without the aid of plates. We are compelled, therefore, to the mere statement, that the windpipe, through which the air passes from the throat to the lungs, divides and subdivides almost without end, till at last these minute subdivisions end in little globular cells. Now the numerous passages formed by the divisions of the windpipe of which we have spoken, together with the almost innumerable little cells at their extremities, are all lined with a thin membrane, not unlike the skin and the lining of the intestines, only vastly thinner and more delicate than either. The extent of this membrane thus lining the internal surface of the lungs, has been usually estimated, in an adult, at about fifteen square feet—equal to the extent of the skin itself. These cells are always filled with air, in the living, healthy adult individual, amounting probably to one hundred cubic inches,

or from three to four pints. The difference of different individuals, in this respect, is, however, extremely great.

But be the quantity of air contained in the lungs what it may, it is not all expelled in expiration, that is, in throwing out our breath ;—nay, only a very small part of it—probably, in ordinary cases, not more than half a pint. This is replaced, at the drawing in of the next breath, by an equal quantity, so that the lungs are always kept full.

We have said that the atmosphere, in its most perfect state, consists of about one fifth oxygen and four fifths nitrogen. It is indeed supposed by some, that a small quantity of carbonic acid gas enters also into its composition—say one or two parts in a hundred ; but whether this is so or not, we cannot determine. In a world where 800,000,000 human beings, and perhaps a hundred, or a thousand, or a million times as many other animals are continually forming this gas by breathing—where it is almost constantly formed, too, by the process of combustion, and perhaps by many causes unknown to us—it would be difficult to say whether it is in the atmosphere constitutionally or accidentally, or both. We are certain of one thing, however, which is, that the less of it we inhale, the better, under all circumstances, is it for our health.

When we breathe, the air we receive into the lungs is forthwith conducted into all the little cells we have spoken of ; and so diffused, every where, that more or less of this fresh air is present—if the lungs are in a healthy state—in each cell. At the same time, a greater or smaller proportion of the dark, impure blood, sent by the heart to be renovated, is also present in the little arteries and veins which abound in the mucous membrane with which these cells are lined. In this way, the blood and the air are brought into very close contact with each other ; and it is

in these circumstances that the chyle sent hither, mixed with the blood, takes its red color, and that the impure blood sent here is also renovated.

Of the philosophy of the change which is effected in either case, it is not necessary we should now speak; something more, however, must be added respecting the particular character, or rather the results of this change.

The oxygen or vital part of the air which is inhaled, always diminishes by traversing the air cells of the lungs, and the proportion of nitrogen gas and carbonic acid gas increases. While, therefore, the blood is purified by respiration, the air which is inhaled and used for that purpose, is rendered impure; and in the same proportion, unfit either for respiration or combustion. It is remarkable too, that the process of *combustion*, so common in civilized society, is continually effecting a similar change in atmospheric air; and in the same way and in a like proportion, rendering it unfit for the support either of combustion or respiration.

It is indeed wisely ordered by the Divine Author of both these processes, that heated air should always ascend, and its place be supplied by that which is cooler, so that the heated but contaminated air of fires goes up the chimney, if there is one; and if not, ascends towards the upper part of the room. In like manner, the impure air thrown out by the lungs at first ascends; so that if we are alone in a large room or in any other portion of free space, we are not driven to the necessity of breathing it over again. It is also an equally wise institution of Providence, that this contaminated air, which, if it were breathed over again would more or less injure us, is the very life-blood, as it were, of vegetation; and is either immediately consumed by it near the spot where it is formed, or if in the season of winter, is wafted on "the wings of the wind" to those places where it is needed. And to complete, as

it were, the catalogue of this series of wonders, while the vegetable world is consuming as its most nutritious food, that very gas which all animals, by respiration, and the civilized world, by combustion, have rejected, as not only useless, but highly mischievous to them, it is at the same time forming—we might say manufacturing—and sending forth in return, a supply of oxygen gas, which if retained, at least in superabundance, would perhaps prove as annoying, if not as destructive, as carbonic acid gas—its own favorite food—is to animals. Thus the two worlds—the animal and vegetable worlds—are mutually found to sustain each other by the very substances which, if retained, would prove the means of their own destruction.

Not that there are no other known ways of disposing of their rejections—by either the animal or the vegetable world—but these are much the most common and universal; and this mutual interchange of good offices always appears to us one of the most striking provisions of Nature, for the creatures of her care, with which we are acquainted.*

* We have sometimes been led to believe that, in a perfect state of society, carbonic acid gas would be the principal, if not the only manure necessary to our decayed soils. In truth, so far as it goes, we know it to be one of the best, if not the very best form of extra vegetable stimulus, (if indeed it deserves the name of an *extra* stimulus,) which can be found. There is, in any event, no need of resorting to strong, recent manures, to enrich our soils, as most farmers and gardeners are accustomed to do, around our largest and most densely settled towns and cities. Not only are the vegetable products of the earth in this way often rendered more acrid than they otherwise would be, and of course in the same proportion unfitted for the best purposes of human health, but even the milk, and butter, and cheese, and flesh, of the animals that feed on them, are also more or less contaminated. We might cite facts almost innumerable, in support of this opinion, but have not room at the present time.

But to return to the more immediate subject of our remarks. From what has been said, we see plainly what must be some of the inevitable consequences of breathing air over again. For though when first thrown out of the lungs its heat causes the carbonic acid gas to ascend, it soon cools, and being naturally heavier at the same temperature than the common air in which it floats, it descends; and if not removed by the motion of the atmosphere, in the form of currents or winds, or by some other cause, is liable to be drawn into the lungs again. But as the latter constantly require the purest air which can be obtained—viz., a combination of about four-fifths of nitrogen, and one-fifth of oxygen, with as little of any other gas as possible—an increased amount of carbonic acid gas, to say nothing of the decrease of oxygen, or the increase of the nitrogen, would not only be negatively, but positively injurious. This injury will be greater or less, in proportion as the air which is breathed departs, in its quality, from the healthy standard, either by the consumption or decrease of its vital part, or by the intermixture of useless or deleterious gases or other substances.

It was said by Dr. Franklin—probably long before his time; and the saying is still repeated—that we spoil a gallon of air a minute. By this we suppose is meant, that we render a gallon of air so exceedingly impure in the space of a minute, as to make it immediately dangerous to life to breathe it any longer. But if the doctrines we have set forth above, are true, a person confined to a gallon of air would begin to suffer in a much less period of time than a minute. Indeed, it is most likely that even the second breath, in such circumstances—and we usually breathe from fifteen to twenty-five times in the course of a minute—would contain a small quantity of carbonic acid gas, which, though it might not and probably would not

cause immediate suffering, would nevertheless be poisonous as far as it went. In fact, we are driven by the severe rules of philosophical, chemical and physiological science, to the tremendous conclusion, that there are very few persons, if any, who do not breathe bad air, more or less, and who do not, of course, injure their health, and shorten their lives, by it, in a greater or less degree.

One very common cause of immediate death from breathing bad air, is in descending into deep wells, caves, mines, &c. It not unfrequently happens that carbonic acid gas accumulates in these cavities to the depth of several feet. It is usually called—in these circumstances—by the name of choke-damp. After breathing it but a few minutes, a person experiences a sense of suffocation, and unless quickly relieved, dies.

Multitudes of persons in going into deep wells, ignorant of any danger, have fallen and expired; and it not unfrequently happens that they who descend to relieve them expire suddenly, in like manner. Did everybody understand the simple fact, that carbonic acid gas often accumulates in these cavities, and that its presence may at once be detected by letting down into it a lighted lamp, candle or torch, how many lives would be annually saved! *

The most fearful casualties of this sort occur—though we confess, more rarely—in deep mines. Great numbers sometimes perish by the sudden accumulation of carbonic acid gas, and by the admission and explosion of other gases, equally dangerous. Great praise has been justly

* The truth is, that if a light, in such cases, continues to burn, a person may safely venture down; but if not, let him beware. The gas may be absorbed so that a descent will be perfectly safe, by putting down into the well a sufficient quantity of quicklime; or it may be slowly absorbed by putting down water, and violently agitating it.

awarded to Sir Humphrey Davy, a distinguished chemist, for inventing what has usually been called a safety lamp, for the use of miners. It is so constructed that it will burn amid gases almost as explosive, naturally, as gunpowder. It not only prevents sudden explosions, when a mass of some hurtful gas collects, either slowly or by rushing suddenly upon the miners, but also affords light to enable them to escape, when they perceive the danger approaching.

We have already said that carbonic acid gas, when cool, is heavier than common air. It is hence sometimes found in the bottoms of wells, caves, &c., one, two or three feet only in depth, so that a man can breathe with safety, while a child, or a dog or cat, would suddenly expire. There is a curious instance of this sort in Italy. The dogs which accompany travellers in visiting a certain cave there, have been known, time immemorial, to fall down and die almost as soon as they enter upon the floor of one of the deep apartments of the cavern, while their masters have escaped. Ignorant of the cause, the place has been named *Grotto del Cane*, or *Dog Grotto*. The simple explanation of the phenomenon is, that the floor of the cave is always covered, to the depth of two feet or more, with carbonic acid gas.

The accumulation of the same deleterious gas will explain the common and lamentable occurrence of sudden death in very tight chambers, or other rooms without chimneys, where coal or any other combustible has been for some time burnt, with the doors and windows closed. How many deaths do we read or hear of, every year, occasioned in this way? They are often called, in the newspapers, *deaths from charcoal*; but there is nothing in charcoal that should render it peculiarly destructive. The suffocation and death are produced by the carbonic acid gas, which is formed both by combustion and re-

spiration, and which, having no opportunity to escape through chimney, window, door or crevice, accumulates on the floor of the room, and gradually fills it up, till it rises to the mouth and nose of the person or persons occupying the room, who, if not relieved, soon die.

As a person is sooner endangered when sleeping on a bed than when sitting up, or at least standing, those who are lying on their beds, sensible of a commencing suffocation, might save their lives, did they understand a few facts in chemistry, and had they presence of mind enough to use them. It happens, however, that they are usually fast asleep, and know not when the hand of death begins to steal upon them.

We have said it matters not as to the danger, whether charcoal is burnt, or something else. The reason why death, in these cases, is so often attributed to charcoal, is probably owing to the fact, that it is charcoal which is almost always used in this dangerous manner. If people have fire-places or grates with flues, they commonly use in them some other kind of fuel rather than charcoal.

Before we go farther, it may not be amiss to remark, that those who still entertain doubts, whether the mischief in these cases is fairly attributed to combustion and respiration, may satisfy themselves by confining a mouse in a small glass jar. They will soon find the poor animal become less and less active, and it will not be long ere he will droop and die. What other cause of sudden disease and death can there possibly be in this case, than that of which we have spoken ?

The experiment to which we have directed the reader's attention in the last paragraph, is a cruel one ; but it seems to us decisive. Should it not be satisfactory to others, however, we shall ere long, present facts which probably will be so.

We have referred to the cases of sudden death from bad

air, so common in wells, caves, mines, and close rooms ; but we have as yet given no names, dates or places. To those who cannot *believe* without the latter, the following facts may be of some interest—not because we suppose they are the only facts of the kind which the world ever witnessed, but because they *are* facts—terrible ones, too,—and specimens of what has existed hundreds or thousands of times, on a greater or smaller scale, in the various parts of our world.

One of the most striking examples on record, of the danger of breathing bad air, is that of the destruction of a company of Englishmen in the Black Hole, as it is called, at Calcutta, in the East Indies.

This Black Hole is a prison or dungeon, eighteen feet square, partly under ground, with no openings but two small windows.

On the twentieth of June, 1756, Surajah Dowla, Nabob of Bengal, having taken Fort William from the British, 146 of its defenders were thrown into this prison, the narrow dimensions of which would allow to each only a space of twenty-six and a half by twelve inches—a space of course, barely sufficient to hold them while standing erect. In less than an hour, many of the prisoners were attacked with an extreme difficulty of breathing, several were delirious, and the place was filled with incoherent ravings, in which the cry for water was predominant. The sentinel gave the water as fast as he could ; but it wholly failed to allay their thirst. In less than four hours many of them died—some apparently from suffocation—others, of high fever, with violent delirium. At the expiration of five hours, most of them, except a few at the windows, were delirious,—and in six hours, nearly all were sick of putrid fever, and large numbers had died. At the expiration of eleven hours, when the prison was opened, one hundred and twenty-three out of the one

hundred and forty-six were actually dead, and the twenty-three remaining, were all sick of putrid fever. The latter, however, by means of fresh air and proper attention, gradually recovered !

Some may suppose that this dreadful result was hastened by the great heat which must have prevailed in Calcutta, at that season. This may, indeed, have had a slight effect, as the air is more highly rarified in hot weather. Still, however, the difference, in this respect, is not so great as most persons are apt to suppose. The idea is not uncommon, that a heated atmosphere may be impure ; but it is not generally believed, at least practically, that a cool one may be. Those who have the care of school rooms, lecture rooms, halls, churches, &c., seem quite satisfied if they do not suffer the temperature of their respective rooms to become too much elevated. As long as a room is cool, it is with the utmost difficulty that they can be made to apprehend danger.* Whereas, the terrible results at Calcutta would have been the same in the middle of a northern winter, except that the work of death would have proceeded a little slower.

In view of the affair at Calcutta, and of facts, Dr. Bell, of Philadelphia, in his work on Health and Beauty, has the following remarks :

“ Such an awful example ought not to be lost sight of ; nor should it be forgotten, that there is a slow poisoning, perhaps more torturing than the sudden and violent kind. In our school-rooms, churches, hospitals, and places of public evening amusements, and even in our private dormitories, we not unfrequently make near approaches to the summary poisoning process of the Black Hole at Cal-

* On cautioning a teacher, in one of our cities, about the impurity of the air of her school-room, she very *sagely* replied, (it was in midsummer,) that the air could not, by any means, be bad, as the room was one of the *coolest* in the whole city.

cutta. In these places, the pure element of the air (oxygen) is exhausted, and there is an exhalation, both from the skin and the lungs, of the poisonous agent, carbonic acid, which, when breathed awhile, produces necessarily the effects already mentioned ; that is, a species of slow poisoning."

Of slow poisoning in our dormitories, and the exhalation from the skin of which Dr. B. speaks, we shall have occasion to say something in another place. Our aim, here, has been principally at school-rooms and other places where large numbers of people are wont to collect and be collected, but in which the health of all, as they are at present managed, is almost sure to suffer.

Another instance little less striking than that at Calcutta, occurred in London, in 1740. Twenty persons were forced, at evening, into a part of St. Martin's Roundhouse, called the Hole, four of whom died before morning, with symptoms not unlike those which have been mentioned in the preceding paragraphs, and two soon afterward ; and twelve more suffered very much.

There is also an anecdote of Crabbe, the poet, which may serve as an illustration of our subject. He was once punished at school by being put into a dog-kennel, with several other offenders—so many, in fact, that the hole was literally crammed with them. Crabbe, however, having been put in first, suffered for want of air, much the soonest. After complaining of suffocation for some time to no purpose, he at length bit one of his companions, which so frightened him that he roared out, "Crabbe is dying," upon which the sentinel opened the door ; and thus, in all probability, saved the lives of both him and his companions.

It is one of the many evils of war, that those who are taken prisoners are often confined in prisons and prison ships, in low and ill-ventilated apartments, where they

either gradually lose their health, or die from dysenteries or fevers, induced or aggravated by the pestilential air which they inhale. Nor is it the least of the miseries of the slave trade, that the confined air of slave ships often proves the means of the sickness and death of the poor passengers, in very large numbers, and of the protracted ill health of still larger numbers who may chance to escape immediate death.

We have spoken of the bad air of hospitals. These are in a better condition, in most countries, than they formerly were, as may be inferred from the following facts :

In a hospital in Dublin, between the years 1781 and 1785, no less than 2944 children out of 7650 died within a fortnight after their birth. This was more than *one in three*. Dr. Clark, the physician, suspecting the cause to be a want of air, contrived to introduce a full supply of this important element by means of pipes, six inches in diameter, into all the apartments. The consequence was, that during the three succeeding years, only 165 out of 4243 children died within the first two weeks, or less than one in twenty-five. What a surprising difference ! Is there a doubt that of the first number of deaths we have mentioned, about 2650 died for want of pure air ?

When Dr. Buchan, about the year 1750, or a little later, was appointed physician to a foundling hospital, in Yorkshire, England, he found that half the children died annually. By reducing the amount of medicine administered to them, to less than a hundredth part the former quantity, and above all, by having the apartments properly ventilated several times a day, the mortality was very soon reduced to about one in fifty. Here was a change still more surprising, if possible, than the former.

We might mention instances innumerable of the beneficial effects of pure air. We might contrast the condition of prisons and prisoners, in our own times, with what

it was many centuries ago; and even up to the times of the philanthropic Howard. We might speak of the horrors of jail fevers, and of other fevers which have been as fatal as the plague, where the air was confined and bad; and of other prisons which, being well ventilated, have always been healthy. We might mention a well authenticated historical fact, that when the plague actually laid waste the city of Edinburgh, in 1645, it affected none of the prisoners in the Tolbooth, as it was called, because it was well aired. We might mention the present improved condition of the Massachusetts and other American Hospitals, and cite many facts to show the beneficial consequences of such happy changes in these important institutions. We might even speak of the healthy apartments of some of our penitentiaries, particularly that of Philadelphia, which contains more than 1300 cubic feet of space in each cell; while many of our *school room prisoners* have less than an average of 36 cubic feet of space, and some, even in the city of Boston, only about 30. We might, however—and we rejoice in being able to make the statement—cite a few instances of large and healthy school rooms, and state facts to show the blessings they bring with them. By simply carrying your thoughts across the Atlantic, we might refer you to Pestalozzi, Fellenberg, and many other eminent teachers, who not only preserved, but improved the health of their pupils, by due attention to air, bathing, and exercise, particularly the former. Pestalozzi was singularly successful, in this respect; and out of 10,000 pupils, is said never to have lost one.

We have alluded to our school houses. And although we have never read the story of the destruction of one hundred and twenty-three lives, in less than twelve hours, from bad air, in the Black Hole at Calcutta, without shuddering, we verily believe there is as much reason for

shuddering at the condition of the pupils of our schools, especially our common schools. We are not ignorant that there are in our land, many improved school houses, as well as improved teachers; and that in some instances, the subject of ventilation is not wholly overlooked. Still we believe that few, very few, of the best of our school houses, are as large as the real good of the pupils would demand; that the progress of the intellect in them all, however deficient it may be, outstrips the progress of the health; and that in by far the greater part, nearly all the pupils, instead of going forward in this respect, are actually retrograding. We have seldom seen a child, of any age whatever, who had been three months in school, without visible marks of suffering for want of air, light and exercise; but especially air.*

Nor is this state of things confined to the pupils of our schools. We have alluded to the mortality which formerly existed among children at certain hospitals. But each family, in the present state of society, is a species of hospital. Each keeps its store of medicine, and each has its physicians—of whom, however, the mother is usually chief. We verily believe there are many respectable public hospitals in Europe and America, where medical pre-

* No one doubts the importance of air and light to vegetables. Who has not observed the feeble, blanched potato or turnip stem, that grew where the air did not circulate, nor the sun often shine, as in the shade or in the cellar? Now, does not every one who has observed this appearance, know that the plants, in these circumstances, are sickly? Is it not well known that their vital powers, more feeble than when they have air and light, will not enable them to resist so well the extremes either of heat or cold? But is it equally well known—though equally true—that our sons and daughters need air as much as our trees, and plants, and lambs, and colts; nay, much more: and that they must suffer, sooner or later, for being deprived of it as great a part of the time as they usually are, in our school houses?

scriptions are not more frequent than they are in a large proportion of our families. But our principal business, now, is with the *air* of these family hospitals. This is very seldom indeed found as pure, taking the twenty-four hours together, as the air in the Massachusetts hospital. And the consequence of this and other parental errors is just exactly what we ought to expect. Children die, even in our healthiest countries, at a rate which would astonish us were we accustomed to look at facts as they exist.

According to the best information we are able to obtain on the subject, about 40 in every 100 of the deaths annually occurring in Great Britain and the United States, are of children under five years of age. To avoid every possibility of exaggeration, we will, however, place the number in the United States, at 30 in 100. But even at this rate, we lose no less than 150,000 children under five years of age every year.

Now if the mortality of every young infant was reduced in the Dublin hospital from one in three to one in twenty-five, merely by supplying them with an abundance of pure air; that is, if due attention to this single department of health was the means of saving young infants, there, at the rate of 130,000 in 150,000, is it too much to believe that at least 50,000 of those who die annually in the United States under the age of five years, might be saved in the same way? But if so, what is the loss in such a dungeon as that at Calcutta, compared with the loss, in a year, in the United States? It is true there may be no such marks of violence—no such horrors—in the case of dying infants, among us, although they die for want of air, as at Calcutta; but their sufferings are usually more protracted, and probably far greater in the aggregate. Suppose all this suffering could be witnessed at once, how would it affect us?

We do not, of course, mean to affirm that the exact

number of 50,000 children, and no more, actually die annually, in the United States, for want of pure air. It may be more; it may be less. Some thousands—nay, some tens of thousands—however, it must be. But this is not all. Thousands and tens of thousands of others whose lives extend beyond this period, are yet sufferers from the same cause; and though their natural force of constitution may enable them to live on a little longer than those whose constitutions are more feeble, yet are they not even more to be pitied?

A thousand forms of disease, as it manifests itself at every stage of life, either owe their existence, or their severity, to breathing bad air. How many infants are sufferers from rickets, scrofula, and glandular diseases,—not only during infancy, but through life—when a proper attention to the purity of the air of the nursery, and proper motion and exercise out of it, would have rendered them healthy! How many of their eruptive diseases might be prevented in the same way! How many of their fevers, diarrhœas, choleras, dysenteries and lung complaints may be fairly attributed to breathing bad air! How true is it also—to repeat what we have already said—that every disease of subsequent life, is rendered more formidable by the early errors of parents and teachers, on this exceedingly important subject!

Is it asked, what can be done in early infancy, which is not done? We reply, much. The air of a child's nursery need not be so much contaminated as it often is, in the first place. But if fires must be built, or lights burnt in it, as they undoubtedly must be at times, let it be as unfrequently as possible, and let great pains be taken to throw open the windows often, when the weather is tolerable, and thus procure a full supply of fresh air. If the child is very young, and the mother fears the fresh air, and if she has no other apartment to flee to, while the

ventilating process is going on, she can, at least, be covered a few moments in bed, till the danger she fears is over. The demand for ventilating a nursery will be more imperious, in proportion as the sources of impurity, such as burning lamps and candles in the room, entertaining much company, and having in the room domestic animals, are multiplied. The mother and child should generally be alone, as much as the circumstances will admit, and should, as much as they can conveniently, dispense with lights and fires.*

Great care should be taken of infants during the night. A fresh supply of pure air, whether in winter or summer, should be secured for the sleeping rooms of all persons, especially children. If it should be thought unsafe to leave a window open, one or more doors which connect with other and more spacious unoccupied rooms should be left open. In general, however, when the weather is in any way tolerable, and the nursery not exceedingly small, a window may be left open during the night, provided the blinds are closed or something hung before it to prevent a current from falling on the mother or child. If it is said that the night air is not very healthy, we grant it; but we yet insist that it is more healthy than the air of a close room, largely impregnated with carbonic acid gas.

But again; great care should be taken to prevent the child's head from being covered while he sleeps. Not a

* It may be objected to what we say about fires, that they purify the air, instead of rendering it impure. And this might be so, were there a constant supply of fresh air, and were the temperature kept low enough. But if we have fires, especially in stoves, we almost always suffer the temperature to get too high; and this, besides being an evil in itself, rarifies the air, diminishes its oxygen, and forms a sort of nidus to bad gases and other impurities. The carbonic acid gas, especially, not being cooled, does not settle to the floor so readily as it should; and is consequently inhaled more than it would be in a cooler room.

few parents and nurses are exceedingly faulty in this respect, partly, however, through ignorance. They do not know the danger of breathing the air over and over. Adults, in their ignorance, very often sleep with their heads covered, particularly in the winter ; it is not therefore at all strange that they should suffer their children to do so. Nor will it be easy to convince those who have slept thus all their lives long, that the practice is attended with any considerable danger. They know indeed that pain and sickness and premature death are in the world—and that, too, in great abundance—but they do not usually know, nor will they believe, that their pains and infirmities, however late in life they arrive, are either caused or aggravated by the bad air which they have breathed at every previous period of their existence.

KEEPING COOL.

To keep cool, is an important direction, at almost all times, and under almost all circumstances, whether it refers to the body merely, or to the mind and the heart. For though there is such a thing as being too cool, the contrary extreme is much the most common. Hundreds are injured by too much heat, external or internal, for one who is injured by too little.

One important benefit to be derived from habitual cold bathing, as was suggested in the essay on that subject in our last number, is, that it greatly assists us in keeping cool.

It does so, 1st, by its immediate effects on so extensive a membrane as the skin ; 2d, by enabling the skin to perform better its varied offices, especially the work of

perspiration. Who does not know, even without reading what we have already said on the subject, that a cleanly skin is favorable to free perspiration, and that moisture, in the process of evaporation, greatly cools the surface from which it is evaporated?

A leading direction to the invalid—especially in the case of eruptions of the skin, or the inflammatory affection of an organ or part, external or internal, especially in the case of weak or inflamed eyes—is, *keep cool*. Such advice, when applied in its fullest extent, would be happily adapted to three fourths—if not to nine tenths—of the living, moving world. Probably more than nine tenths of the community, above two years of age, have more or fewer of the membranes of their bodies in an unnatural state—a state of excitement—a condition which physicians regard as a state of sub-inflammation.

“KEEP COOL, KEEP COOL,” then, the universal prescription is, or might be. But what is it which is to be kept cool? Do we understand this point clearly and fully? To keep cool, in the fullest sense of the term, would it not be to keep cool the whole body—its fluids as well as its solids. Would it not be to keep cool the heart, the arteries, the veins, with the twenty-five or thirty pounds of blood in them—the digestive organs, and all the organs concerned in the formation of blood—we mean the stomach, the liver, the pancreas, the absorbent vessels, and the whole intestinal canal? Would it not be to keep cool the lungs also, with all their numerous divisions and innumerable cavities or cells? Would it not be to keep cool the brain—the thinking organs—and its appendages, the spinal-marrow, with the thousand branches that rise out from each, called nerves? Surely it is no small matter to keep all the membranes and organs of so complicated a body as ours, at all times perfectly cool.

The skin alone is estimated to embrace an extent of

surface equal, in a middling sized adult, to about fifteen square feet. Then there is a membrane not unlike it, but thinner and more delicate, which lines all the cells or cavities of the lungs, whose extent is thought to be about equal to that of the skin. A third membrane, not unlike the skin, lines all the rest of the cavities of the body which have any communication with the air—the eye, the ear, the nose, the hollows in the cheek bones, and in the forehead near the nose, the mouth, the swallow pipe, the stomach, the pipe which leads to the gall bladder and the pancreas, and indeed the whole intestinal canal, and many other parts—and is believed to be equal, in extent, to ten square feet. Now here are three membranes, or rather three divisions of the same great membrane, which alone present a surface of about forty square feet. To keep even these cool—saying nothing of the other organs, and especially of the blood—is, we repeat it, no very trifling task.

How indeed can it be done? In no other way, surely, than by noticing the causes which affect these surfaces, by exciting or irritating them, and to allay irritation, or prevent it. When we know what substances tend, by excess or otherwise, to affect the temperature of any of these parts, we have but to attend to and regulate the application of those substances.

We can never keep as cool as we ought, while the skin is over-heated by too much clothing, and especially by clothing which is too irritating. For without entering upon the discussion of the question whether flannel next to the skin is necessary in our climate, were we not trained to its use, we may at least say, that it confines the heat of our bodies so much, and has such a tendency to over-excite the skin, and consequently to over-heat the system, that it should never be used except when absolutely and indispensably necessary to our immediate

comfort. Nor should we sleep in beds which are made of improper materials, nor under covering of improper quality, or in too great quantity. Nor should we remain, by night or by day, in rooms whose atmosphere is at a higher temperature than is just necessary.

One reason for keeping the skin and all the other portions or organs of the body as cool as we can, is to preserve their tone, and elasticity, and vigor, and enable them to fulfil best all their varied offices. Now one office of all the living vital organs of the human system appears to be to *generate human heat*; and as it is indispensable to the welfare of an organ that it performs all its offices—the office of *manufacturing heat*, as well as the rest—it is obvious that if, by the application of too much *artificial* heat to the system or to any organ or part of the system, we prevent the necessity, to that organ or part, of its fulfilling its task in the work of generating or manufacturing *natural* heat, then that part or organ must be weakened by inaction. Indeed, its original power to generate heat—even that measure of internal heat which is indispensable to health—is thus diminished. Thus, one reason for the injunction to keep cool, is, that we may keep warm; or, in other words, that we may maintain the highest possible degree of health and vigor,—the best means of maintaining a temperature neither too high nor too low, at all seasons and in all circumstances.

But it is not enough that we so manage all the circumstances of clothing, sleep, air, bathing, &c. as to keep our skin cool; though to do this, were to do much. We may heat ourselves through the instrumentality of the brain and nerves. Over-anxiety and fretting, by their “wear and tear,” induce a feverish state; and so do even hard study, and studying at late hours. No person can be cool who sits up half or all the night to read an exciting novel. The trouble in this case, however, is, that

we combine several sources of too much heat. We are excited; we sit up late; we often sit or remain in an atmosphere too much heated; we have a late or exciting supper on our stomachs, (tea perhaps among the rest,) and we sleep, or attempt to sleep, on a hot feather bed, and covered perhaps with what is called a comfortable.

The mention of heavy suppers and exciting drinks, reminds us of another fruitful source of too much heat. No person can be cool, whose stomach is daily, perhaps almost hourly, irritated by the presence of fermented or alcoholic drinks; or by tea or coffee; or by what are called condiments. Nor can he be cool whose blood is made from high-seasoned or oily food, or pastry; or even by a superabundance of plain food. The latter, indeed, excites and irritates, *indirectly*; but not therefore the less surely. Does any one suppose that a body can be cool, through which a pailful of blood, heated by cider, wine, beer, tea, coffee, oil, pepper, spice, mustard, cheese, vinegar, &c. is coursing its way every four minutes?

There is one more class of substances that heat the blood, and by consequence, the whole system; we mean drugs and medicines. All the drinks we have just mentioned—and indeed some of the eatables—are properly drugs; but there is another, and if possible, a more heating class; viz., opium, spirits, tobacco, picra, pills, &c. Nobody can keep cool, that does not keep clear of medicine. But we have said enough of dosing and drug-ging, elsewhere.

The direction then to keep cool, is one of no ordinary importance. To know how to keep cool properly, without falling into the opposite extreme of keeping *too* cool—a thing by no means impossible—requires a thorough knowledge of the human constitution, in all its functions, laws and relations.

SOCIETY OF BIBLE CHRISTIANS.

THOSE persons who have read a work of ours, entitled "Vegetable Diet," will probably recollect the account, at page 214, of a "Society of Bible Christians," as they called themselves, which was in existence in England in the year 1829, and contained upwards of a hundred members; but of which, for the last eight or nine years, the author had received no intelligence. We were the more careful, in regard to our statements on this subject, because a report was then in circulation—which has been still more widely diffused since that time by our busy opponents—that the Society had "run down." Under these circumstances, we were not a little gratified to receive, about the first of July, a most interesting letter on the subject, from the Rev. Wm. Metcalf, of Philadelphia, from which, though without the permission of the writer, we venture to present the following information respecting the origin and progress of this curious society.

"The '*Society of Bible Christians*' originated, under Divine Providence, about the year 1807, through the labors of the Rev. WM. COWHERD, minister of Christ Church, Salford, Manchester. He was a very popular preacher, a man of transcendent talents, a cultivated mind, uncommon eloquence, and withal, indefatigably zealous in his ministerial duties. He preached the word of God gratuitously, and supported himself by the practice of physic. He zealously inculcated, during the last nine or ten years of his life, the doctrine of abstinence from all animal food and intoxicating liquors, as a religious duty; and he faithfully observed the doctrines he taught. At the time of his death (1816) there were between 300 and 400 of his hearers who had adopted a vegetable diet; having been induced to do so by his example, his lucid

and powerful preaching, and by the authority of the *Sacred Scriptures*. Since then, these principles have continued to be advocated in his church; and a second church has also been built in Manchester, in which the same dietetic views are inculcated; and which is well attended. I understand there are now about 700 members of this religious body, in Great Britain. I may add, that none are considered members who do not wholly abstain from all animal food and intoxicating liquors."

In addition to this very valuable piece of information, Mr. Metcalf gives the following account of what may be deemed an American Colony of the Parent Society, now existing at Philadelphia.

"Early in the year 1817, a company of 39 persons, including among them the writer of this communication, all of whom belonged to this religious society, arrived in the port of Philadelphia, with the intention of making this country their future earthly abode. They were all such as have '*to earn their bread by the sweat of their brow*;' hence they became scattered, in order to obtain a subsistence. The result was, that 24 or 25 out of the 39, subsequently relapsed into their former habits of *flesh-eating*. As a minister in this little religious community, you will readily conceive, I felt much discouraged; but believing in the truth of my views, and considering it a duty to endeavor to diffuse the doctrines I had espoused, and to promote a cause which I believed then and still believe to be calculated to add to the physical, mental and spiritual well-being of mankind, I determined, with the blessing of God, not to give up in despair. I opened an academy, in this city, and made use of my school room on the Sabbath day for religious services, teaching our peculiar views. The school room was, in time, superseded by a small church, which my hearers purchased, and in which we have met each Sabbath, since 1823. Our present number

of members is between 80 and 90, including both sexes and all ages ; mostly residing in this vicinity. We have been blessed, as a people, with general good health, and I may venture to say we are all satisfied of the superiority of a vegetable diet over that mixed regimen so commonly used."

As some of our readers may like to know further particulars respecting this trans-Atlantic Grahamite (we have called him a Grahamite, because it has become a foolish custom to call every person by this name who abstains from flesh-meat, even though he commenced his abstinence before Mr. Graham was born) we have added the following paragraph from his private history.

"You will, I presume, naturally and justly conclude, that as a member of that religious society (the Society of Bible Christians) I am a vegetable eater. Should I live till the approaching September, it will then be *thirty years* since I have so much even as tasted either fish, flesh or fowl. I have children and grand-children that have never tasted any thing of the kind ; nor has animal food, at any time, been an article of diet in my family."

That redoubtable champion of flesh-eating and cigar-smoking—the editor of the Boston Medical and Surgical Journal—says that a sound state of health requires a small quantity of meat to be used. "We have never yet seen an exclusively vegetable-eating individual," he adds, "who did not show the evil effects of it ;" and his correspondents ever and anon echo back the same sentiments.

What will they say to such facts as we now lay before them ? Will they continue their efforts at reproach and ridicule ? Or will they consent, at length, to examine the arguments against flesh-eating, as carefully as they have those which are supposed to be in its favor ?

LIGHT OF THE "SUN."

WE are told that "light is sweet," and that it is "a pleasant thing for the eyes to behold THE SUN"; but what are we to think of the light of a certain "Sun" in New York, thirty-two thousand copies of which are said to be daily circulated, which contains numerous advertisements of quacks and others, informing the rising generation, in the most unblushing manner, where they may find certain infallible preventives and cures of certain diseases. A number of this paper for July 2d, contains an unusual efflux of "light" on this subject. It sets forth, in particular, in about half a dozen places, the wonderful virtues of "Hunter's Red Drop," as a cure of "v——l" disease—we copy the language of the advertisements—and their filthy assurances are accompanied by the statement, that cures can be effected "without diet, or hindrance from business, and no chance of being detected, when all other remedies have failed." Nay, more, Mrs. Restell, a female physician, advertises in language too plain to be misunderstood, the "means" of procuring abortion, at the pleasure of those unfortunate mothers, to whom her advertisement is addressed.—Allusions to the "v——l disease," as it is called, "delicate diseases," "female complaints," &c. are frequent on every page. The paper contains not less than twenty of these abominable advertisements—some of them of considerable length.

But the whole story is not yet told. The paper we have mentioned contains a resolution said to have been passed by the Medical Society of Washington county—we are not told in what state, or at what period of the world's history—recommending the use of "Dr. Allen's Balsam of Hoarhound, Liverwort and Pleurisy Root, and stating that it is their "decided and unanimous opinion, that it will cure consumption and liver complaint."—The

resolution is signed by John R. Smith, M. D., President of the society ; and by David P. Hale, M. D., Secretary.

Now whether this is a genuine recommendation of a specific for consumption and liver complaint, or a forgery, it is a most remarkable affair. It must surely be conceded, either that quackery is becoming exceedingly rife among us, or villany exceedingly bold, or both. One more concession seems to us equally necessary and equally unavoidable, viz., that it becomes those who behold but a tinge of the immorality which is sweeping over and desolating our land, to take every measure in their power to prevent our country's destruction, especially by the circulation of correct knowledge in regard to the laws of life and health.

SCIENCE OF HUMAN LIFE.

GRAHAM'S Lectures on the Science of Human Life, in two very large volumes, have been published some months, and we intended before now, to have expressed, in few words—all for which we have room, in a work like this—our general approbation of the work. It is unquestionably the most important work on the three great subjects of Anatomy, Physiology and Hygiene, considered practically, which has yet appeared ; and if it should be read by fewer of the present generation than could be desired, it will, nevertheless, be read by somebody, and at some time or other. A few individuals may complain of the size, and consequently of the price ; but let it be remembered by such persons, that of itself it constitutes a library on the subjects of which it treats. We heartily commend it to all our readers. No family that can, by the closest economy, save three dollars and fifty cents, ought to be without it.

LIBRARY OF HEALTH.

BREATHING BAD AIR.

THE exceeding great importance of breathing pure air has induced us to continue the subject from a former number. We know of nothing, in the department of health, to which, at the present time, the public attention can with more propriety be directed.

Before the danger of sleeping with the head covered can be rendered sufficiently plain, it will be necessary to state one fact in Physiology to which we have not yet adverted.

The same change of the blood from bad to good—from pure to impure—which is effected in the lungs, is effected also, in some good degree, on the whole surface of the body. Some of the insects or worms, may be said to breathe entirely on the surface of the body. They have no lungs whatever. As we rise in the scale of existences, to snakes, fishes, &c., we begin to find lungs or gills, in which a part of the change of blood to which we allude, is effected. Rising still further in the scale of being, we find the lungs larger and larger, and the skin less and less concerned in the change, till we come to man, and some few other animals, in whom the change is almost wholly accomplished by the lungs.

Still, we repeat it, the skin, even in man, has some share of the work of renovating the blood to perform, as may be readily shown by a very simple experiment, like the following.

When a person has lain several hours in a bed, closely covered to the neck with thick covering—say with the modern article called a comfortable—let a candle or lamp be introduced under the clothing, and it will soon be extinguished. The oxygen is so much diminished, and the carbonic acid gas so much increased, as to be incapable of supporting combustion; and by the same rule, unfit for respiration. Let it be also distinctly understood, that this change is wholly effected without the agency of the breath; though when the head is covered, it is, of course, accomplished much faster.

This fact, that we breathe, as it were, that is to say, purify the blood and poison the air with the whole surface of our body, as well as by means of the lungs, is of the utmost practical importance. It is of importance to be understood by those on whom we urge the duty of keeping the skin clean; for how can a foul skin—a skin varnished over with dust—perform its delicate but important functions? It is of importance to be understood in order to know how to clothe ourselves; for all those forms and circumstances of our clothing which tend to embarrass or interrupt the action of the skin, in its work of assisting the lungs to purify the blood, are, of course, objectionable. It is, however, of still higher importance, that it should be well understood by mothers, in the management of their infants, not only in regard to cleanliness and dress, but particularly in regard to sleep.

For, in the first place, the bed-clothing ought to be as loose and porous as it can be, and yet at the same time retain a sufficient amount of heat, in order that the carbonic acid gas may have opportunity to escape, and the purer air to find its way through it. Secondly; The clothes ought to be often thrown open, and the air under them thus exchanged for better. Thirdly; The child ought never to be allowed to sleep with its head under the

clothing. Immense is the mischief done in this way, as we have already said, by ignorant parents, and even by those whose fault is more that of carelessness than of ignorance. Fourthly; He should sleep alone as much as possible, either in a bed or a crib, rather than with parents, brothers, sisters, &c. Fifthly; He should never be permitted to have domestic animals, as favorite dogs or cats, sleep in the bed with him—a practice quite too common in our country—especially that of having a puppy in the bed. The child's body poisons the imprisoned air quite fast enough without any aid from dogs and cats, or from other human bodies; and above all, without being aided by his own breath!

What has been said in relation to the management of infants, will be generally applicable—the principles which it involves will at least be so—in the management of childhood and youth, and manhood and old age. Fires without flues, lamps, candles, breathing, the action of the skin, (if not prevented by dirt, improper clothing, &c.,) and many more causes, will continue to operate to deteriorate the atmosphere at every period of our existence. There will be no moment of our lives when we shall not need the whole active force of a free, vigorous pair of lungs, and a healthy skin, to *form* and *reform* the blood, and to cast off the poisonous carbonic acid gas which is formed by these important processes. There will be no waking moment of our lives when we shall not need to be constantly on the watch—at least as much as our circumstances and employments will admit—against an agent which will threaten our destruction, and which, after we have done our best, will probably gain, more or less, the dominion over us.

Hence the importance which philosophers, in all periods of the world's history, have attached to pure air, and the concessions which have been made—proud as mankind

have been, and ashamed of and averse to labor—in favor of agricultural employments. The habitual breathing of pure air, with plenty of active exercise, will counteract, in no little degree, the bad tendency of a host of the ordinary physical transgressions.

On this important subject Dr. Clark, in his work on Consumption, has the following remarks:—"Were I to select two circumstances which influence the health, especially during the growth of the body, more than any others, and concerning which the public, ignorant at present, ought to be well informed, they would be the proper adaptation of food to difference of age and constitution, and the constant supply of pure air for respiration." We believe this is the opinion of all medical men who have at all studied the constitution of man, and its relation to outward objects.

Mr. Thackrah, a distinguished surgeon of Leeds, England, and author of a most valuable work on the "Effects of Employments on the Health and Longevity of Mankind," goes somewhat farther in praising pure air, than most of his contemporaries. He says—"Be it remembered, that man subsists more upon air, than upon his food and drink."

But is he not correct? We scarcely receive our food half a dozen times in twenty-four hours, and most of us only three times; whereas we are receiving air every moment of our lives, and our blood—and consequently our whole bodily system, as that is built up from the blood—is being modified by it. In other words, the work of digesting our food takes place usually but three times a day, whereas we are digesting air (digestion it really is) continually; for instead of receiving a fresh supply of it three times a day, as of food, we receive it from twenty to thirty thousand times a day.

We have spoken as if farmers and other laborers in the

open air, obtained this essential and vital fluid in a state of perfect purity. We doubt, however, whether the air which we breathe in cultivated regions of the earth, is often found perfectly pure; or always, even, in those which are uncultivated. Ever since the expulsion of the first pair from Paradise, or at the least, ever since the earth, in any part of it, became thickly peopled, there has been more or less of animal and vegetable decomposition continually going on in the world, and consequently more or less of atmospheric impurity. We have said, indeed, that the superabundance of carbonic acid gas which is formed by breathing and combustion, is taken up in the growth of vegetation; but this change is not of course so instantaneous as to prevent its being more or less mixed with the two principal component parts of the atmosphere, on its passage. It is not carbonic acid gas alone which renders the atmosphere, in civic life, impure. There is another gas, called carburetted hydrogen gas, which is produced in various ways, which is quite impure. Then there is sulphuretted hydrogen gas, which is also exceedingly poisonous to the lungs, and to all parts of the system.*

* Few persons are aware that this agent is as destructive of health and life as it is offensive to our organs of smell. We hope many valuable hints may be derived from the following remarks of Dr. Dunglison, in his "Elements of Hygiene"—in which he is also sustained by other equally eminent writers. We wish it might be remembered, moreover, that a gas which in its pure state is so actively deleterious, cannot but be noxious, more or less so, in its most diluted state. With what care, then, ought we to avoid, not only all external filthiness, but even all flatulence!

"This gas," says Dr. D., "is extremely deleterious. When respired in a pure state, it kills instantly; and its deadly agency is rapidly exerted when put in contact with any of the tissues of the body, through which it penetrates with astonishing rapidity. Even when mixed with a portion of air, it has proved immediately

Even these are very far from being all. There are numerous exhalations, as well as gases, which are poisonous. These exhalations may be animal, vegetable, or mineral. Some of these are more abundant in the night, and about the time of the morning and evening twilight—and hence the importance, to those who are feeble, of avoiding the air at all hours except when the sun is a considerable way above the horizon.

But if the open air is not perfectly pure, it is comparatively so. All should therefore enjoy and inhale it as much as possible, even if they cannot, like Franklin's Methusalem, be always in it. This remark is applicable to every age and condition of life, and to both sexes. Happy will it be for mankind, when the matter shall come, universally, to be so understood!

It will be objected by some, perhaps, that if the views we have expressed are correct, it will be next to impossible to have the air perfectly pure for a single day, or even a single hour of our whole lives. Such a view of things, they will say, is discouraging. Go they where they will, or be they where they may, they must, in all probability,

destructive. Dr. Paris refers to the case of a chemist of his acquaintance, who was suddenly deprived of sense as he stood over a pneumatic trough, in which he was collecting this gas.

"From the experiments of Dupuytren and Thenard, air that contains a thousandth part sulphuretted hydrogen, kills birds immediately. A dog perished in air containing a hundredth part; and a horse in air containing a fiftieth part of it. It is the deleterious agent exhaled from privies, (or vaults,) which has been so fatal, at times, to night men, who have been employed to remove or to cleanse them.

"When this gas is breathed in a more diluted state, it produces powerful sedative effects; the pulse being rendered extremely small and weak, the contractility of the muscular organs considerably enfeebled, with stupor, and more or less suspension of the cerebral functions;—and if the person recovers, he gains his strength very tardily."

inhale more or less of something besides the due proportion of oxygen and nitrogen; and do what they will, they must, at this rate, be always contracting disease. They shall act wisely, they say, therefore, in not attempting to do any thing at all.

This constant exposure to danger, however, only enhances the necessity of exerting ourselves to the utmost, in order to do the best we can. He justly deserves to starve, who will not raise corn or wheat, or fruit, because at best he shall lose a greater or smaller proportion of it by means of birds, insects, &c. And does not he deserve to suffer the consequences of his neglect, who, in the belief that after he has done all in his power, he may still breathe a little carbonic acid, or some other impure gas—enough perhaps to shorten his life by one day, or diminish his happiness by one thousandth—will not hesitate to run the risk and encounter the danger of breathing every sort of impurity, without measure and without reason?

The world in which we live will never become the happy and glorious world it might be—and which it is destined to be—until we all come to feel that Infinite Wisdom has seen fit to put the well being of our bodies, no less than that of our minds and hearts, mainly in our own hands. Man can as well manufacture health, as he can acquire knowledge, or make moral progress; and he will be held as truly accountable to the Judge of all the earth for the talents which are entrusted to his keeping, in one of these respects, as in another. The time will come, in the history of this world, when an enlightened conscience, formed on the principles of the Bible, will as surely reproach us for bodily disease or debility, as for ignorance or moral perversity. Observe, however, that we do not maintain the doctrine of perfectibility in either of these respects—we have already conceded the contrary—but we do maintain that we may approximate towards it,

in all ; and that it is our duty to do so. And when we come to know that the purer the air is, the better it is for the lungs and for our whole bodily welfare, and that we are answerable to Almighty God, for every impurity which we inhale unnecessarily, even if it did not diminish our health or shorten our lives in any very perceptible degree, we shall hardly dare to bury in the earth any talents or powers we possess, be their number ever so few.

The laborer should joyfully avail himself of the opportunities which are afforded him, for breathing the pure air of heaven. His exposures to bad air will be frequent enough when he has done all he can. His dwelling, in the best of its apartments, will probably be but poorly constructed for ventilation ; and as for his sleeping chamber, it will almost certainly be too small, too low, and too seldom aired, especially in cold weather. While the weather is extremely hot, a window or a door may occasionally be thrown open ; but in cold weather he may get fresh air if he can ; that is, if nobody else oppose him in the fear of his catching cold.

The mechanic and manufacturer is usually worse off than the farmer ; though some mechanics are *nearly* as favorably situated as he. Among this class are those whose employments are principally out of doors, or in shops where there is a full and free supply of air ; such as carpenters, joiners, brickmakers, ropemakers, paviors, butchers, teamsters, stage-drivers, coopers, wheelwrights, fishermen, &c. All these have so good a supply of air, that if all their physical habits are correct, they generally enjoy comparatively good health, and last to comparative old age.

Among the class of mechanics who suffer most for the want of pure air, are, of course, those whose occupations are chiefly within doors ; as tailors, shoemakers, milliners, dressmakers, spinners, dressers, weavers, printers, engravers, millers, brewers, bakers, grocers, druggists,

painters, smiths, founders, potters, masons, maltsters, snuff-makers, cooks, and confectioners. Few persons who follow steadily any of these employments, escape disease, and fewer still attain to old age. It is true that many of them suffer from other causes; but were they subject to no other evils than that of breathing bad air, we cannot believe they would often be long lived or healthy.

It is worthy of remark, that, in general, those employments are most unhealthy which could, as such—we mean as separate employments—best be dispensed with. Thus every family in ordinary circumstances, could grind their own grain, make their own bread, spin, weave, and make their own clothing; and the snuff-maker, the brewer, the maltster, and the confectioner, might be wholly dispensed with, to say nothing of the grocer, the druggist, and the painter.

We have classed cooks among those whose employments are hurtful; but we refer here, as we have already intimated, to those who follow cooking exclusively as a profession. As cooking is now pursued by our plain common sense people in New England—saying nothing of fashionable life—and above all, as it should be pursued on christian principles, by our mothers and daughters, it were comparatively a healthy employment; and when to four or six hours a day in housewifery, including two connected with the practice of cooking, and two to four in study, or in taking care of their children or pupils, our females shall have learned to add two in the open air, at some light agricultural or horticultural exercise, this employment, instead of being objectionable, will be one of the most healthy which, in civic life, can be devised for them.

Of all the sufferers, however, which we have seen from bad air, the females of our factories, such as those, for example, in some of our cotton mills, are much the

greatest. There are many thousands in our land who are, in this way—that is, by breathing bad air so large a portion of their time—gradually undermining the vigor of their constitutions, if not sowing the seeds of dangerous diseases. We have seen about 100 in a single room, of whom not one was in perfect health; and we do not believe this was a solitary instance of the kind.

It is not to be denied that the females in our factories are often diseased before they go there. This, however, instead of furnishing an apology for sending them, is the very reason why they should have some other employment—one which will give them a purer air. House work would be almost infinitely better for the tender young girl, of ten, twelve, or fourteen, especially if she has a light or pale complexion, with a long neck and projecting shoulders, indicating feeble or diseased lungs, than a *burial*—for it is little better, and often no better—in a cotton factory. We have witnessed too many *facts* not to know that, though we should seem severe, we do not speak, on this subject, at all unadvisedly.

We believe it to be in the power to carry on our manufactures of every kind, without employing females more than six or eight hours a day in any of them; and we believe it quite possible for them to breathe a tolerably pure air while in actual employ. To venture to predict when an event so important to human happiness will be realized, would be to foretell at what period christianity will have attained its final triumph over the selfishness and the avarice of man, and the love of our neighbor will be co-extensive with the love of ourselves. So long as the public opinion sets him down as a good man who sacrifices the health of his neighbor—to say nothing of his intellect and his heart—to his own cupidity, it is vain, perhaps, to hope for any thing better than the effectual, though it should be gradual, destruction of hundreds and thous-

ands of our fellow beings, in various ways, even by those who profess the name of christian.

Does the word destruction, in this connection, seem to be too harsh an epithet? We wish with all our heart, we had one more appropriate. But what else can it be called? If there is a better name for a flagrant crime, we wish those who have it would furnish us with it.

Let us trace the course of the factory girl, and see if she is not as truly destroyed, although it be a little more slowly, as if she should have the jugular vein of the neck severed, or the heart or the lungs pierced or lacerated.

She is bereft, perhaps early, of one or both parents. She is often left with a scrofulous constitution—the natural and inevitable consequence of a parent's intemperate, dyspeptic or licentious habits. This constitution is one which, above all others, requires plenty of wholesome but plain food, and abundance of exercise in the free open air. If this is not allowed her, a scrofulous constitution becomes a consumptive one. Her chest, naturally rather slender, and made still more so, perhaps, by *her dress*, at length becomes the seat of disease; to which in all probability, is soon joined, disease of the spine and of the whole glandular system. Her fair thin skin and red cheeks give place, first, to a sickly delicacy, and afterwards to a uniform paleness, mingled with blue. She cannot labor at household work, it is thought; she has not strength enough; and her friends and relations—if she has any—unwilling or unable to support her without labor, send her to the factory.

There she is immured from twelve to sixteen hours every day, except Sunday, in that bad atmosphere of which I have spoken. Not only is it wanting in oxygen, the vital principle, and abundant in carbonic acid, a most noxious agent, but it is also filled with fine particles of one substance or another, which is perpetually inhaled,

and is as perpetually a source of irritation to the already tender and delicate internal surface of the lungs.

But not only is she confined above half her twenty-four hours in the bad air of the factory—she is also buried in slumber, in an atmosphere little better, almost all the other half. Ventilation of a sleeping chamber cannot be expected, in a boarding-house, which, without being of extraordinary size, is made to hold—not to accomodate—from fifty to one hundred female boarders. Nor is the air of such a house perfectly pure at any hour, above all, at meal times. The consequence is, that the young factory girl is confined to a poisoned atmosphere, at least twenty hours of every twenty-four; often more. And where is she the rest of the time? Does she breathe as she should? Is she employed in washing, ironing, gardening, or walking? She is indisposed to every species of exertion, except, perhaps, a little lazy gadding in the evening, and a little novel reading at a worse hour still.

Is it to be wondered at, that after a few years—sometimes even before the lapse of six months—the factory girl grows feeble, loses her appetite, becomes emaciated, goes home—if, haply, she has a home—sickens and dies? But is not this, in substance, the history of many a female, even of our own goodly New England? And are not such females slowly, though it be without malicious intent, murdered? If he who loveth not his brother or sister, is in the gospel sense a murderer, is not this murder?

True it is, and the more to be lamented, that females sometimes go to these places voluntarily, or with the consent of respectable but poor parents. All are not orphans who are thus murdered. Still, a large proportion of the victims of our factories, are immured in them against their will; and for the very reasons which should deter us from sending them thither—because they have a feeble or sickly constitution.

If parents, masters, guardians, houses of industry, almshouses, &c., must—that is, *will*—send any of our females to factories, to be denied, in effect, the pure and free light and air of heaven, and either to perish sooner or later themselves, or be the efficient cause of a sickly and miserable progeny, in the name of mercy herself, let them select for this purpose the strongest and most robust. Some of these might, perchance, withstand the evils to which they are doomed, at least till Providence or circumstances release them; but the already debilitated and sickly can hardly hope to escape.

But scrofula, and disease of the spine, and consumption, are not the only evils, terrible as they are, which are induced by inhaling impurity. Examinations into this subject, made by public authority, in Great Britain, have elicited facts which should astonish us; for be it remembered, that the same causes, operating in America, will not fail, in due time, to produce similar effects to those in Great Britain. A factory is a factory, and bad air is bad air, be it where it may, in one country or season, or another.

One of the examinations in Great Britain, to which we have alluded, resulted as follows:—"Of 2,000 individuals, taken *indiscriminately*, from large factory establishments, all were stunted, many had crooked limbs, some had crooked spines—many had small chests; in most of them the arch of the foot was flattened; 90 had marks of rickets; 140 had weak eyes, habitually so; a small number had confirmed diarrhoea; and almost all had diseased action of the stomach, or liver, or bowels, in some form or other."

It is proper to say, that most of the 2,000 individuals above referred to, were placed in factories at a very early age—a much more tender age than is common in the case of our American children, male or female. Still, the in-

mates of our factories are usually admitted young, and a measure of the same long catalogue of diseases awaits them, that awaits those who, in another country, are placed there a little earlier.

Dr. Clark, a British writer, whom we have before mentioned as high authority on this subject, says—"Almost all the children reared in the workhouses of this country, and in similar establishments abroad, become scrofulous—more, I believe, from the impure atmosphere which they breathe, and the want of sufficient exercise, than from the want of defective nourishment."

"Take a child," he goes on to say, "of three or four years of age, in perfect health, having been born without any predisposition to disease, (if any such children there are,) well nursed, and hitherto properly nourished; let it be fed upon improper food; let it be confined to close, ill ventilated apartments, where neither the heat nor light of the sun has free admission, and we shall soon see the healthy blooming child changed into a pale, sickly, leucophlegmatic object."

In short, we are assured by those who have the opportunity to know how this matter is, that nearly the whole number of children in British factories, are victims of a train of irregular morbid actions, chiefly indicated by disturbances in the functions of the digestive apparatus, with their consequent effects upon the nervous system, producing melancholy, extreme mental irritability, and great exhaustion; and that though few acute diseases are found among them, their whole existence is, in reality, but one long disease.

The simple truth in the case is, that the world—the enlightened world, we mean—is but a great factory; consisting, indeed, of different apartments, variously ventilated, but still it is a great factory. Such, however, are the general arrangements of the Creator, in ventilating the

numerous apartments of this great establishment, that the inhabitants maintain so much health, or, rather, *escape so much disease*, as to last, many of them, to what is called old age; though none of them live as long as they might if they cooperated more effectually with the Creator in his general plans for their benefit—in other words, if they but performed their part as well as he does his.

It appears, in fact, that with all the draw backs on account of bad air, human life is not only protracted, often, to what we call age, but it is actually lengthening. All accounts unite in showing, that the average duration of human existence, in civilized states and kingdoms, has been increasing slowly for several centuries. Whether, however, the average amount of health and happiness is increasing, is quite another question. We believe, on the contrary, that it is rapidly diminishing.

We have already seen, that, according to the best authorities, “the whole number of the children in British factories,” are diseased. We do not hesitate, therefore, to say, that we regard every factory as an hospital, and its inmates as sick patients. In like manner do we regard the great factory—the world—as one great hospital, and all its inhabitants as more or less diseased. No one breathes, at all times, a perfectly pure and healthy atmosphere. Every one, therefore, has his blood but imperfectly formed and purified, and in so far as this is the case, every one is more or less diseased—we might even say poisoned.

Does this view of the subject—we repeat the objection, since we fear it will, by many, be made—does this view, we say, impeach the wisdom and goodness of the Creator? Very far from it. Life is a general blessing; a great one too, notwithstanding all its evils. If every individual in the world, impairs his health or diminishes his happiness more or less by breathing bad air, and by numerous other

errors, still, as a general rule, he clings to life and defends it ; giving to the world, in this way, the best evidence of the value he attaches to it. To BE, in almost the worst circumstances, is, by most, regarded as infinitely better than NOT to be. But, then, it should be remembered, that our present condition is, as we trust we have clearly shown, susceptible of improvement, without any assignable limits. Let us study and obey the laws of health. Let us study the laws of the Creator within us and without us ; and especially the relations which exist between our own bodily system, and the framework of nature around. Let us, among the rest, breathe better and purer air. We repeat the sentiment—there is no individual to be found, who cannot, in this respect, improve his condition. There is not a person on the earth's surface, who is capable of action and has his freedom, and yet breathes as good air as he might, or might be made to do, for a single twenty-four hours together : no, not one. Some of the rooms he occupies—his sitting room, his parlor, his bed room, his shop, his school room, the factory where he works, the lecture room or church he frequents, is, at one time or another, during every day of his life, more or less contaminated with an unnecessary amount of carbonic acid gas, or some other gas or injurious agent ; and consequently he inhales, every day, more or less, the seeds of disease and premature death.

Sweeping as these assertions may seem, they are obviously undeniable. We might go even farther, as other writers have done before us. We might apply our remarks to the domestic animals. On this subject, Dr. Clark says as follows :—

“ It is well known that cows confined in close stables, in towns, become tuberculous, and would die consumptive, if not sold to the butcher at the commencement of the disease ; and that rabbits may be rendered tuberculous,

(that is, affected in the lungs, with what might be called the seeds of consumption,) in a few weeks, by confining them in a close, humid place, and feeding them on innutritious food; and they are often as speedily cured by removing them to a well aired, dry situation, and giving them nutritious food."

True it is, that the cows and horses, and other domestic animals of the airy, healthy town or city—and above all, in our healthy country towns of New England—do not suffer so much as in Paris, or in New York or Boston. Yet, even these are sometimes kept in too close stables in the winter, or confined too long in the cow-pen during the night, ere they are driven again to their respective pastures. All this privation, or error, in regard to domestic animals, cannot fail to give a tendency to disease, which, if not forestalled by our fattening them and killing them, breaks out into open violence, and destroys them. Oftener, however, in the case of the cow, the milk "takes the disease," as it is vulgarly called—we know not how; we only know the fact—and quadrupeds or bipeds who eat it, receive the injury, while the cow herself, either partially or wholly, escapes. Still, it is true that the great majority of domestic animals become more or less diseased, not only in their fluids, but in their solids—not only in their milk, but in their flesh—and that those who eat their flesh receive a part of the punishment which civic society deserves, for their want of that attention to them, which, as divinely constituted lords over them, is their just due.

One word, in this place, on the subject of confining animals in cages, whether birds, squirrels, monkeys, or elephants. It is well known that most of the monkeys, apes, &c., which are brought to this country and exhibited in menageries, die tuberculous; in other words, consumptive—doubtless in a very large degree for the want of

pure air. It ought to be equally well understood, that all animals confined in an unnatural manner, suffer more or less from the want of air, natural exercise, &c., and die, more or less, prematurely. We merely hint at this subject, and leave it, without saying much of the moral evils connected with it. Let the considerate—especially the parent and the teacher—reflect on this subject in all its bearings, physical and moral, and beware!

But to return to our subject. Let us not be misunderstood, however. We do not say that every individual among us errs to an extent that will of itself induce what is called acute disease. Society is full of complaints—some of greater, some of less severity—and all these have their causes, in a very great degree, in human disobedience of the laws of life and health. Or if it were not so; if no one of them could be traced, principally, to our errors and physical transgressions, yet, it is still certain, that they are all aggravated by them. No person can have a disease, acute or chronic, severe or mild—so mild, even, as hardly to be considered as a disease—without suffering more severely for his previous physical errors. No person ever breathed bad air for an hour of his life, without having every subsequent disease rendered more severe than it otherwise would have been.*

Is it asked what are the particular diseases which are induced by breathing bad air? To give a full reply to this question, would require a volume. We have room only for a few general remarks.

1. There is hardly a single complaint on the long cat-

* If there is an exception to the truth of this statement, it is in favor of those who are already affected with disease. There are a few consumptive patients, to whom impure air—an air, which, at least, contains less than the usual standard proportion of oxygen, or vital air—seems to afford temporary relief.

alogue of human ills, that may not, in this way, be either induced or aggravated. Most persons are predisposed to one disease, rather than another; that is to say, the causes which tend to disease, produce in them one particular form of disease more readily than any other. Thus, in a person predisposed to consumptive disease, the breathing of bad air will tend to produce the consumption; in one who is strongly predisposed to gout, it will produce the gout; and in one inclined to eruptive diseases, it will produce eruptions.

2. There are, however, a few diseases, which, in all, especially in children, seem to be more readily developed by breathing impure air. Scrofula, rickets, eruptions of the skin of various kinds, and bowel complaints—cholera infantum and diarrhœa, especially—stand at the head of this class. We doubt whether one infant in an hundred, who is subjected for any considerable time to the influence of bad air, wholly escapes all of them.

3. Occupation has some influence in determining what the diseases shall be which affect us, whatever may be their primary causes; and is sometimes so powerful as to overcome the predisposition to another disease. Thus, a person who is strongly predisposed to consumption, may, by laboring at shoemaking and breathing impure air, induce a disease of the heart, which will destroy him before the consumption gets fairly seated.

Some of our readers may be gratified to look at the following facts and details, derived from the extensive observation and experience of medical men, especially Mr. Thackrah, of Leeds, whose name we have already mentioned.

Farmers, from the strong appetite which their employment in the open air gives them, and from abundance of food and drink, and a too frequent carelessness about their health, are subject to liver complaints, disordered bowels,

rheumatism, and fevers. We have already admitted elsewhere, that, though more or less subject to disease, their occupation is comparatively healthy ; to which we would now add, that, judiciously conducted, it might be made much more so.

Shoemakers are exposed to diseases of the heart, consumption, bilious affections and bowel complaints in general. Not a few of them, who long follow this employment, are afflicted with vertigo ; and a few, of late years, with dyspepsia.

Tailors are not only very subject to consumption, but to disorders of the stomach and bowels. They are also liable to curvatures of the spine, and hemorrhoidal affections. In London, they are so much subject to the latter affection and its consequences, that they sometimes form associations by the name of "Fistula Clubs."

Milliners, dress-makers, and straw-bonnet-makers, are subject to consumption, dyspepsia, diseases of the heart and of the liver ; and not unfrequently to diseases of the eyes.

Weavers are very liable to lung diseases of every kind—colds, asthmas, fevers, and consumption—and also to disorders of the stomach and intestines.

Spinners—especially in large factories—are much exposed to pulmonary disease, both from the want of pure air, and proper exercise. Spinning wool and cotton on the common wheel, in the family, can hardly be said to expose to disease at all.

Smiths, though usually healthy, are found not unfrequently to have weak eye-sight ; and some who have observed closely their habits, say they are liable to rheumatism. Smiths, however, are believed to suffer more from breathing fine mineral particles, than from the carbonic acid gas of their shops and apartments.

Cooks—those who are professionally so, we mean—are

said by a distinguished medical writer, to die, in many instances, of apoplexy, and in almost all, miserably. Their digestive organs are frequently disordered; they are subject to headaches, and their dispositions are rendered irritable. Fortunately, we have as yet but few professed cooks among us.

Painters are always more or less diseased. Their more ordinary complaints are, dizziness and vomiting. But they are, many of them, very subject to what they call bilious or liver complaints, and not a few to palsy, and a peculiar kind of colic, commonly known by the name of the lead, or painter's colic.

Druggists are subject to dyspepsia, consumption, and palsy.

Millers—flour manufacturers, we mean—often suffer from loss of appetite, indigestion, and asthma, and sometimes from consumption.

Printers are liable to many complaints, not only from impure air, but from too much standing, and from abuse of the eyes. Among these are diseases of the eyes and stomach, and consumption.

Masons are exposed to diseases of the lungs; and if they work much in lime, to diseases of the eyes and skin.

Turners and cabinet-makers are subject to indigestion and diarrhœa.

The principal diseases of bakers, are, affections of the lungs and stomach, rheumatism, and a species of cutaneous disease, not unlike the itch. Every mistress of a family should be, if possible, her own baker.

Glass-makers are subject to colds and coughing, and sometimes to diseases of the digestive organs. They also seem peculiarly exposed to sudden death from causes unknown.

Clerks and students suffer most from diseases of the digestive organs; but the lungs also suffer; and so do the

brain and nervous system. When they become addicted to masturbation, the ills which they suffer become almost innumerable, and quite indescribable.

Physicians are peculiarly exposed to indigestion, and diseases of the lungs and blood-vessels.

Ministers are subject to diseases of the chest, and of the larynx, or upper portion of the windpipe : also to diseases of the digestive organs, and sometimes of the head. The bronchitis is not new, as a disease for ministers, but is much older than any person now living. Nor is it confined to this country.

Lawyers are subject to diseases of the brain and nervous system, of the stomach and bowels, and occasionally of the lungs.

Thus have we presented a few hints—for they are little more—on this great subject. The sum of what we have said in the last three or four pages, is this. There are, in almost every person, constitutional tendencies to particular diseases. But the occupation of almost every individual, has, too, its tendencies ; and these will be more or less strong, in proportion as he confines himself to his profession, to the exclusion of proper exercise, and of every thing else. Breathing bad air, always tends to induce disease, and will be likely to bring on that disease to which we are constitutionally inclined, unless our occupation is developing some new disease so rapidly, as to get quite in advance of it ; in which case, every thing centres, as it were, in the new, or *occupational* disease. We have already illustrated this point at page 253, in the case of the shoemaker predisposed to consumption.

There are other classes—conditions, rather—of persons, who always awake our sympathies, and make us wish the blessings of pure air were far better understood than they usually are.

When we see children shut away from the pure air

which God has given in such healthful abundance, and also find them listless and inactive as the consequence, the pain it gives us is excessive. This is almost universally observed in the case of children at our common schools. Nor do the children of some mothers fare much better at home. The fear that they will catch cold, leads to a course of management which dooms them to suffering, as inevitably as a stone in the air falls to the ground.

When we see females in fashionable society, refuse to expose themselves to the sun's light, or to the open air, for fear they shall be sun-burnt or tanned, or shall take cold, and who become, as the natural consequence, as pale and delicate as the potato-stem growing in a dark cellar, and almost as unfit for the main purposes of their existence, as satin or gauze would be for the canvass of a ship of war, we always wish they understood better the laws of health and life.

When we see ministers making slaves—not servants, merely, for that they should be—of themselves, Sabbath after Sabbath, to a listless, yawning, or sleeping congregation, when we have good reason for believing that their dullness and sleepiness would be, in a good measure, removed by the admission of pure air—when we reflect that through their own ignorance, and that of the sexton, and the people at large, they are wearing out their lungs and their life as unnecessarily as prematurely, we cannot but labor and pray that all classes of mankind may soon have an opportunity to study *Anatomy, Physiology, and Health or Hygiene*.

STATISTICS OF LUXURIES.

WE have been at much pains to prepare a table which should exhibit, at one view, the amount of tea, coffee, tobacco, spirits, wine, beer, sugar, molasses, salt, &c., which is annually consumed by the population of Great Britain,* France, and the United States, estimated at about 65,000,000; or 20,000,000 to Great Britain, 30,000,000 to France, and 15,000,000 to the United States. We are assured it will be a table of some interest to all classes of our readers.

Several articles of importance in the list of luxuries, have, indeed, been entirely omitted, among which are what may be called the spices—mace, nutmegs, cinnamon, cloves, pepper, pimento, cassia, and ginger—the foreign fruits and nuts, (most of the dried ones,) such as raisins, figs, &c., cocoa and chocolate; and our domestic cider. Most of these are used as luxuries, as they make no part of our necessary food or drink, nor are intended as such. The yearly cost of the spices used in the United States, to those who consume them, cannot be less than \$1,500,000; fruits, \$1,500,000; chocolate and cocoa, \$750,000; making a total of nearly \$4,000,000. The value of the cider used, it is hardly possible to conjecture. But even without this, the proportion for the three countries named, would be about \$13,000,000. All this, however, we have left entirely out of our estimate.

Not that every article which we have set down as a luxury, and therefore not a necessary, is equally a luxury; nor, indeed, that any one is exclusively so. Alcohol, and

* By Great Britain, we mean, of course, England, Scotland and Ireland, without including any colonies or dependencies. The population of England and France, is taken from 1830; since which period, it has, we know, somewhat increased.

tobacco, and wine, and beer, may be sometimes useful as medicines, or in the arts; indeed, it is certain they are so; and perhaps a small quantity of tea and coffee may be so. It is also probable, that in the present dearth of true light on this subject, a little salt, molasses and sugar, may conduce to human health and happiness, and are, therefore, necessities, rather than luxuries. Still, it is believed that nearly the whole of this mighty aggregate is opposed to human health and happiness, were mankind sufficiently enlightened to receive the whole truth. And when we consider the numerous smaller items of luxury, not included in the table, of which we have given specimens in the preceding paragraph, we run no hazard in saying, that the WASTE of the three countries, Great Britain, France, and the United States, for luxuries which pertain to eating and drinking, is quite equal to the sum total of the table.

Perfect accuracy, in a table of this kind, must not, indeed, be expected—we believe it to be impossible. Nevertheless, we flatter ourselves that our estimates are, for the most part, not very wide from the truth. The greatest uncertainty we feel, is in regard to the items to which we have attached an asterisk.

TABLE I.

SHOWING THE CONSUMPTION OF EACH COUNTRY.

	G. Britain.	France.	U. States.
Tea,	22,750,000 lbs.	195,000	15,000,000
Coffee,	8,100,000 "	20,100,000	90,000,000
Tobacco,	20,000,000 "	7,200,000	35,000,000
Spirits,	28,020,000 gals.	5,700,000	50,000,000*
Wine,	6,210,000 "	700,000,000	5,000,000*
Beer,	420,000,000 "	155,000,000	5,000,000*
Sugar,	448,000,000 lbs.	128,000,000	200,000,000
Molasses,	33,334,000 gals.*	50,000,000*	25,000,000
Salt,	16,000,000 bush.*	24,000,000*	12,000,000

TABLE II.

SHOWING THE PROPORTION CONSUMED BY EACH MILLION OF INHABITANTS.

	G. Britain.	France.	U. States.
Tea,	1,137,000	6,500	1,000,000
Coffee,	405,000	670,000	6,000,000
Tobacco,	845,000	273,000	1,000,000
Spirits and Beer,	21,000,000	5,170,000	3,700,000
Wine,	310,000	23,300,000	334,000
Sugar,	22,400,000	4,270,000	13,334,000
Molasses,	1,167,000	1,667,000	1,667,000
Salt,	750,000	800,000	800,000

TABLE III.

SHOWING THE TOTAL AMOUNT OF THE EXPENDITURES OF TABLE I, WITH THEIR TOTAL VALUE TO THE CONSUMERS.

	Total amount.	Total value.
Tea,	37,945,000 (round numbers.)	\$38,000,000* (round num.)
Coffee,	118,200,000	14,775,000
Tobacco,	62,200,000	23,460,000
Spirits,	83,720,000	62,790,000
Wine,	711,210,000	355,000,000
Beer,	580,000,000	150,000,000
Sugar,	776,000,000	97,000,000
Molasses,	100,834,000	40,000,000
Salt,	52,000,000	25,000,000
		<hr/> \$806,025,000

This sum of \$806,025,000, is equal to an average of \$12 40 for every individual of the whole population included in the estimate, viz.—65,000,000. Or it is an av-

* This article is placed rather high, some allowance being made for preparation of the material for use. This, however, is the only instance of the kind in the whole table. The annual cost of coffee to the United States, for example, is estimated in the N. A. Review at \$20,000,000. Indeed, we believe that tea actually costs at least a dollar a pound in one of these countries, and also in some parts of the others.

erage of \$62 for every family of five persons. We are not ignorant, of course, that some families abstain entirely from a part of these articles; and many, among us, do not use them to the amount of \$62, nor even one half that sum. But we also know of hundreds, who exceed it; and there are, of course, thousands and tens of thousands of the same class of persons, with whose habits we are not personally acquainted.

Yet, this sum of \$62 a year to a family, if *saved* every year, instead of being expended, and put out at compound interest, would amount, in forty years—if we have made no mistake in our computation—to \$2,023 93. A heavy sum to expend in forty years for luxuries, and a large part of it without the shadow of a real necessity. Why, it would give a family a good farm, in most of our country towns, and would buy a tract large enough for a whole neighborhood, in some of our new countries.

And how much good might be done with the aggregate sum we have mentioned—the sum of \$800,000,000. Why, it is more than three thousand times as much money as has been given by the people of the United States to foreign missions, during any year since missionary efforts commenced; and perhaps a thousand, or at least, several hundred times as much as is done yearly in this way, in Great Britain, France, and the United States. Nay, we are bold to affirm, that these three great nations spend more for luxuries in a single year, than they all ever yet expended in the cause of foreign missions, since this benevolent work was begun.

Fellow citizens—"these things ought not to be"! Is he a friend of his country, who, for the sake of the paltry, short lived gratification it affords, will contribute, by his example, to destroy it?

American freemen! is this your freedom—to be so enslaved to your appetites, as to waste a snug little patri-

mony in forty years, for that which does you little good, except to rivet your chains still more firmly?

Friends of philanthropy! is this your love to your race? Can you claim to love those whom you are doing so much to destroy? Do you love even your own life, when you contrive to fritter it away by the use of daily poisons?

Professing christians! to you, at least, the question comes—are you the disciples of Christ? Are you believers in a gospel which encourages you to abstain, even from wine and flesh, as long as you live, rather than to cause your brother to be made to stumble or to fall; and which requires you, whether you eat or drink, or whatsoever you do, to do all to the glory of God? And will you continue in the daily use of things in your families, at the rate of many dollars, perhaps fifty or one hundred, every year, which do not glorify Him?

INSANITY AND DISEASE.

THE following letter was addressed to the editor of the Library of Health, some time since, by a friend of Physiological reform. Although not intended for publication, we have supposed it might become useful, especially in directing the attention of our readers to the invaluable "Report" of which it speaks—a copy of which, by the by, we preserve, as we would the richest earthly treasure.

"DR. ALCOTT:—You have often expressed it as your belief, that if we could make people feel their responsibility for their own health, and that of their families, we should accomplish much. If you have read the last Report of the Trustees of the State Lunatic Hospital, at Worcester, you must rejoice at the change which has taken

place in the minds of those concerned in this report. As you may not have seen it, however, I beg leave to direct your attention to the following extracts from it.

The Trustees say, at page 5—"The general opinion entertained at the time of the establishment of this institution, was, that insanity is an affection of the mind, and not a disease of the body, and that it is produced by a direct visitation of Heaven. It was the common belief, that the victims of this visitation must continue to suffer its unknown and inexhaustible agonies, until rescued by another direct interposition of omnipotent power."

But they add, that a deep change has been effected in public opinion, chiefly by the skill and success of the worthy Superintendent, Dr. Woodward. "They have demonstrated," it is affirmed, "that insanity is a physical disease; that it has its origin in natural causes, being induced by a violation of some of the organic laws upon which the mental functions depend; that these laws are not mysterious and inscrutable, in any peculiar sense; that they are capable of being recognized and understood, like the causes which bring on consumption, or the gout. Insanity, therefore, is no longer to be looked upon as some vast, unknown and awful minister of evil or judgment to mankind. We now see why it befalls, and how it may be averted. We see, that should we obey certain laws which are annexed to our being, we should enjoy mental soundness; but that if we will transgress rules to whose violation the dreadful consequences of insanity have been attached, it is as certain to befall us, as fire is to burn. The excellency of these discoveries is, that they convert a disease, once most formidable, from its uncertainty, into a measurable and calculable agency."

In another place, the report says it is in the power of parents so to rear and educate their children, as greatly to diminish the chances of their ever becoming inmates of a

hospital for the insane. Let all who have the superintendence of the physical or intellectual education of the rising generation, see to it that they do their duty.

There is much, in this report, on the direct causes of insanity, which all parents ought to read ; and my only excuse for troubling you with this, is, to induce you to speak of the report, and the causes of insanity, in your peculiar manner, as such remarks are often of more value than you are aware."

INTERMARRIAGE.

SOME of the evils which result from Intermarriage have long ago been pointed out ; but in no work which has yet come before us, have we seen the subject handled so *originally*, not to say ingeniously, as in a work by Alexander Walker, of Great Britain, recently republished in New York by J. & H. G. Langley. The long title explains the object and intention of the book, and is as follows :

" Intermarriage ; or the mode in which, and the causes why, beauty, health and intellect result from certain unions, and deformity, disease and insanity from others ; demonstrated by delineations of the structure and forms, and descriptions of the functions and capacities, which each parent, in every pair, bestows on children—in conformity with certain natural laws, and by an account of corresponding effects in the breeding of animals. With eight illustrative drawings."

In short, the curious author has struck out a new theory of generation—backed, however, as he supposes, by abundant facts in the animal world—the leading points of which may be gathered from the following statement, which we copy from a London review of the work.

One of the newly discovered laws of nature, which are for the first time announced in the work, gives to man a precise rule for the guidance of intermarriage in his own race, and for that of breeding among animals.

According to that law, one parent gives to the progeny the forehead and organs of sense, together with the nutritive organs contained within the trunk of the body ; while the other parent gives the back head and cerebel or organ of the will, together with the locomotive organs composing the exterior of the trunk, and the whole of the limbs.

Upon these principles Mr. Walker advises us how wives and husbands should be chosen, so that their progeny may be healthy, vigorous, and endowed with rich gifts in body and mind.

We only add to what is there said by the reviewer, that whether correct or not, to the full extent, this new and curious book has a great deal of truth in it ; and we rejoice at its appearance. We wish it to be in the hands of all thinking persons who are already parents, or who ever expect or intend to be ; assured that a proper perusal of its pages cannot otherwise than be in an eminent degree profitable.—We believe in the indefinite improvement of our race, by one means or another, though not its perfectibility, in the sense in which some philosophers have used the term ; and we are more confirmed in this belief than we were before we read Mr. Walker's book on Intermarriage.

HEALTH TRACTS.

Our readers will have seen, ere this, by the advertisements on the covers of the Library of Health, that we have commenced the publication of a series of Tracts on Health, to be partly original, and partly extracted from this work. Of this series, five only have yet been published, viz:—the five whose titles appear in the advertisements. Our intention is to continue them, at suitable intervals, for some time to come—perhaps for several years. It will be our object to take up, for each tract, some obviously important topic, and say just what we think necessary and useful in the present state of the public sentiment. Some of the tracts will consequently be of considerable length; others will be very short. One on Breathing Bad Air—to appear shortly—will contain fifty or sixty pages. We intend to illustrate some of our subjects, such as “tight lacing,” for example, by means of engravings.

There is abroad a series of small tracts, chiefly for gratuitous distribution, many of them in the form of dialogue, with which we have nothing to do, directly or indirectly. We say this, because they have been spoken of in some of the papers and other periodicals, as our own. We have published no tracts on this subject, but those above referred to, all of which bear the editor's name, or are avowed by him in some form or other.

LIBRARY OF HEALTH.

CLOTHING AND TEMPERATURE.

THE object of clothing, in its application to the human body, is, for the most part, threefold. 1. To cover us. 2. To defend us from injuries. 3. To assist in regulating our temperature. There is, indeed, a fourth use of clothing, on which some might be disposed to lay considerable stress,—we mean, in improving our personal appearance.

In the following remarks we have thought it proper to omit the latter use of clothing, because the customs of our country—and indeed of most countries—have carried it to an extreme which is exceedingly undesirable—we had almost said criminal. How can it be right to spend so much of our time—to say nothing of our property—in ornamenting or attempting to ornament and improve our persons? But were it *right* in itself, that is, were there nothing positively wrong in an undue attention to dress on this account, it would at least be foolish.

Canova, the celebrated sculptor, in comparing ancient and modern art, observes, that the ancient artists threw all their energies into an endeavor to make the countenance and attitude expressive, with but little regard to the dress; whereas the moderns place all their skill in the expression and movement, as it were, of the garments. Hence, as he says, the figure in the former case is all speaking,

the dress is silent; while in the latter, the clothes are perhaps a little eloquent, but the figures themselves are as cold and as destitute of expression as the unquarried marble itself. No reproach on our modern customs in regard to dress could be more keen; and the poignancy of the suffering is increased by the conviction that it is just.

Let us therefore consider the subject of clothing according to its original and obvious intentions. And in the first place, let us say a few words of its intention as a *covering*. This is its first, as it was its earliest object.

We know not what may or may not be appropriate and becoming in other circumstances and under other modes of education than our own, and in worlds which have not been marred or defiled by transgression; but we are fully assured of one thing—the opinion of some philosophers to the contrary notwithstanding—that in a world like this, as it has existed since the fall, clothing for our bodies, in some form or other, has always been necessary; and indeed, in some form or other, has always been used, except in the case of a few of the most savage tribes.

In the use of dress as a covering, however, care should be taken to have it answer the purposes of a covering. To clothe ourselves in such a manner as to defeat our very object by reminding the most careless observer of the *necessity* of clothing, is quite a mistake, let it be made by whom it may. We have read somewhere of a most severe reproach on a young lady whose garments, one cold morning, fell over her shoulders too much. It was by a medical friend of hers. There were no words. He merely looked steadily in her face a moment, and then looked at her dress, and shrugged his shoulders, as if he was suffering from the intensity of the cold.

So great are the errors to which we allude, in fashionable society, that we have heard it affirmed by one who has investigated this matter more profoundly than almost

any other man living, that if it were our object, in all our arrangements, to defeat the purposes of dress as a covering of our nakedness, he did not see how we could become much more successful than we now are.

However, we will not dwell too long on this point. What we have said will afford an indication of what should be done, in the way of reform. Let those who understand the nature and extent of the evils to which we have alluded in the foregoing paragraphs, exert themselves to the utmost, both by example and precept, especially the former, to remove them. Let all our garments be loose and flowing. Above all, let there be no ligatures on any part of the body, nor any impediments to the free and unrestrained motion of every limb and every vital organ. Let all this be done, we say, were there no other reasons for it than a suitable regard to propriety, modesty and decency.

We are next to treat of clothing *as a defence*. Here we shall say but little, although it is a topic on which we might say much.

The hat, we suppose, is worn chiefly as a defence. No one will suppose it is used merely as a covering. There can be no natural impropriety nor any vicious or immoral tendency in going with the head bare; that is, with no other covering than that thick covering which the Author of nature has provided. Little more is it to be regarded as intended to keep the head warm. It has been a maxim, time immemorial—and a just one, too—keep the head cool. Except in the case of very young infants,* and those who have become bald by age, accident or disease, we believe the natural hair to be quite as warm a

* Even in the case of the youngest infants, if they are healthy, and the nursery is arranged as it should be, we should never have occasion to put any thing on their heads.

covering for the head as is needed for health's sake, even in the coldest weather.

We say, therefore, that the hat is worn as a defence. It defends us—or should do so, were it properly constructed—from the rain, the snow, and the hail; and from the scorching rays of the sun. It is a slight defence, too, against the violence of blows, accidental or otherwise. It should ever be regarded as a defence, in some degree, of the delicate and tender instruments of vision and sound, against foreign bodies. It is true, nature has, in this respect, done much for us. The more delicate parts of the ear are fenced round and protected from injury in the best possible way which would not exclude sound. Nor are the eyelids, the eyelashes, the eyebrows—but much more the frontal bone projecting above the nose between them—without an important use in defending the eye, especially from excess of light and from blows. Still, the hat may be considered, as in some degree, an ally to all these. The hat should be of the coolest materials which can be obtained, provided they answer well the purposes of defence. Thick wool hats are too warm, and if any thing else can possibly be devised, even at a considerable increase of expense, which will properly defend the head from the sun and the rain, it ought to be employed for the purpose. The cooler the head-dress, as a general rule, we say again, the better.

The shoe ought to be a defence against those substances which might pierce, lacerate, or otherwise injure the foot. It is true, it has other offices; for while nature has provided a covering for the head where less warmth appears to be needed, she has made no provision in this way for the feet, where warmth is peculiarly desirable to health. But of this we may say something more in another place. We need only add here, that neither shoes, nor boots, nor hats, add to the beauty of the parts

to which they are applied, unless it be in the eye of one whose taste is vitiated ; on the contrary, they are a deformity rather than a beauty. The hat, for example, with its square top, as is the current fashion ; how it deforms a being whose physical beauty consists in the perfection of its curved lines ! The curved line is the line of beauty both in the animal and vegetable kingdom. It is only in the mineral and *dead* world that angles and straight lines become beautiful. The remark is especially applicable to the square-toed shoe or boot.

There may be also a use for gloves, in the case of those whose hands are exposed by their employment to injury. In general, however, except in so far as they are used to defend us from the cold, they are unnecessary, if not useless ; perhaps we ought to say injurious.

These remarks upon the hat, the shoe, and the glove, will serve not only to show us their legitimate intention, but what should be their true shape and character. These should be in accordance, as much as possible, with the will of the Creator in the formation of the human constitution, and in the establishment of its laws and relations.

The best material for the feet—one which combines the purposes both of defence and warmth is, undoubtedly, leather. Cloth may indeed be relied on to some extent ; but in general, it is but a poor substitute for the former article, especially as a means of defence.

The boot, though a good defence, is probably too warm. It also constrains the movements of the ankle. Still, if made of pliable materials, it is not very objectionable, though the half boot or shoe is better, except in deep mud or snow. For warm climates, the sandal is preferable to the boot or the shoe, except as a means of defence ; and it even subserves a very tolerable purpose in that respect.

We regret, exceedingly, that a regard to health and true philosophy should have so little influence in this matter, and a regard to fashion so much. More than even this; it is unbecoming a highly refined and cultivated community that it should be so.

As to the material of dress for our bodies and limbs, we know of nothing which better combines the two great and leading purposes of warmth and defence—for the greater part of the year at least—than our common fulled cloth and flannel. Here common sense has dictated, for the most part, a tolerable correct course. For the great heat of summer, a different material is indeed desirable. In regard to the quality and texture of the various materials employed both for winter and summer, much might be said; but this we will reserve for our remaining topic.

This is the use of clothing *as a means of regulating our temperature*. Before we enter fully upon this part of our subject, it is of very great importance that we should consider briefly the philosophy of human temperature. In other words, the question is—How is the human body now warmed; and how should it be warmed?

To some it may never have occurred for once in their lives, that in strict philosophical truth, no person is warmed, directly, by any external means whatever; that not the sun, nor clothes, nor even fire itself, as a principal agent, warms us;—that, on the contrary, we are warmed from within. It is true, indeed, that after the lapse of some time, the fire within would not burn so well as before, if all the other influences were withdrawn. Take away the direct rays of the sun, and we should, no doubt, feel somewhat cooler for it. Take away our fires, and at times we should feel, most sensibly, their loss. Finally, take away our clothing, and our suffering would be considerable; and in a short time, in cold countries or climates, we should perish.

Yet suffer us to repeat the sentiment, for it is one of great importance, *we are warmed chiefly from within*. The living system has the full power of generating and cooling heat. In the language of our books on this subject, it has a calorific function, an organ, or rather a set of organs for the formation of caloric; and this, too, at a very rapid rate. In illustration of so important a truth, let us attend to the following considerations.

It is well known that in this northern climate, during our long tedious winters, we sometimes have a few exceedingly cold days. It is not very uncommon for the mercury to sink to 12° below 0 of Fahrenheit's thermometer; which is 44 degrees below the freezing point, or 110 degrees below the average general heat of the human body.

Suppose a person in tolerable health and well clad, walks out at one of these seasons, does he freeze? Not by any means, as long as he keeps stirring. But why not? Do his clothes keep him warm? Do fires warm him? Does the sun warm him? Perhaps it is in the evening, and the sun does not shine. Whether, however, it is in the evening or in the day time, and whether there are fires near him or not, his body remains at the same temperature, notwithstanding the cold. The hands, to be sure, or at least the tips of the fingers may not be quite 98° ; and yet the flesh and blood of these parts, could the thermometer be plunged into them, would be found to be of about that temperature. Yet, we again ask, why?

Suppose, however, that instead of walking about in health, the person is killed by some accident. Does his body remain, now, at the temperature of 98° ? Or does it fall, very soon indeed, to the temperature of the surrounding atmosphere? Every one knows that not all the bright sunshine nor all the blazing fires in the world could prevent this, any farther than they raised the temperature

of the surrounding atmosphere at the same time. Clad in the warmest apparel though the man might be when deprived of life, his body will soon come to be, not 98, or equal to the heat of the hottest summer day, but of the same temperature with the air in which it is placed. But why is this, we once more ask? Why can the living healthy body remain 110—and sometimes more—above the heat of the surrounding atmosphere, while the dead body sinks at once down to that temperature, be it ever so low? Why, indeed, but that the great source of heat to the living body is the vital powers within?

But to illustrate this point a little further.

The Greenlander who does not see the sun for four or five months together, has as hot blood at the end of that time as the inhabitant at the equator, who has seen the sun half the time, or as he himself has after the sun has shined on him in midsummer—as it is accustomed to do—as many months without setting. Dr. Boerhaave, in Holland, and Bishop Cheverus, formerly of our own city, who avoided fires in the winter, had their blood, nevertheless, as hot as that of other men. And the Scythians who went naked in a cold and comparatively northern climate, and who when interrogated by Alexander and asked how they could do so, told him they were *all face*—that is, their whole bodies, like our faces, were accustomed to it—together with the half-naked Indian tribes of North Western America, and of other regions, have their bodies, it is fully certain, as warm as our own.

But once more. We have within ourselves, not only the power of maintaining a constant heat of 98° amid surrounding cold of very great intensity, but also of resisting the addition of heat, in any considerable degree, above the usual standard of temperature which has been maintained—or 98. Examine the blood of an individual who is swelting under a heat of 110, 115 or 120—a tempera-

ture which occasionally falls to the lot of the inhabitants of every hot region, as Africa, or India, or South America—and it does not vary essentially from the blood of the Greenlander or of ourselves. Nay, even place a person in a large oven heated to 212 (the heat of boiling water) or even to 260 or 280—such experiments have been tried again and again—still the temperature of the mass of solids and fluids of his body remains nearly the same.

We have said that the heat is *nearly* the same. The ends of the fingers and toes, and perhaps the ears and some of the other extremes of the body may have their temperature raised two or three degrees; and it is quite possible that the heat of the whole body may rise, as it does in a raging fever, in like manner; but it will not do so till it is first debilitated by the excess of heat or by some other cause;—it will not do so as long as there is perfect health and full vigor.

It is worthy of remark, in passing, that he who resists best an excess of cold, resists best also an excess of heat; which is explicable only on the great leading principle, that the fire is within, or that the body manufactures heat for itself. Thus, if the mercury is down to zero or below it, the vital powers manufacture the heat very fast, in order to keep up the whole system to 98, in spite of the rapidity with which heat is constantly escaping from it; or if the individual is where the mercury is up to 212, the vital organs become inactive, or nearly so—so far we mean as the production of heat or caloric is concerned—and the rapid evaporation on the surface of the body and on the internal surface of the lungs, keeps down all tendency to excess. Thus for aught we see, all these curious phenomena are explained on this single principle of a calorific function in the human system, or a power to manufacture for itself—by means of the united efforts of all the vital organs—according to and in proportion to its wants, its own heat.

We repeat it, then, the plain conclusion from all these experiments is, that we are not as much dependent on external means of warmth, as we are on internal ones ; that is, on the power of generating heat within us, or what some writers call the calorific power or function. And the great practical reflection which should arise in every mind on whom this conclusion has fastened itself is—What is the course of life, and what is the kind of management, physical, intellectual and moral—and especially in regard to dress—which is best adapted to give the most vigor and power to this calorific function ? For we have already remarked, that the same individual who has the most power of generating heat for himself by his own internal functions, has also the most power to resist an excess of heat, as in a hot climate or hot oven.

The general answer to the question propounded in the last paragraph is—Whatever course of management as respects exercise, employment, air, sleep, eating and drinking, and even dress and general temperature, is found from an extended—not an insulated and partial—investigation, to be most happily adapted to preserve both body and mind in the greatest permanent vigor, will give the most permanency and stability to the fire within us.

Here it will be inquired, perhaps—“ Do our senses then deceive us ? They must certainly do so, if the sun, the fire, and our clothing do not warm us.”

We do not deny or attempt to deny that all these external agents affect our temperature in a greater or less degree. What we insist on—what indeed we have been laboring to prove all along is, that their influence is but secondary ; that they are but as the valves or regulators of the system—or rather, that they are the aids and assistants to the primary agent in this matter—the calorific power or function.

We do indeed maintain, that the healthy human body has the power, especially when trained to it, of generating its own heat, and maintaining it, both in a very low temperature and in a very high one. Still there is a degree of cold—at least such a degree might be produced—which would freeze us, after all; and especially if applied long enough; and there is, or might be, a degree of heat which would effectual destroy us.

More than even this may and must be conceded. All degrees of temperature, higher or lower, affect us more or less; but it is indirectly, rather than directly. We are affected, in a degree, by the sun, by fire, and by clothing; and in both of the following ways.

1. If the heat around us is too great, its long continuance enfeebles our vital powers, and our calorific powers among the rest. But whatever enfeebles the latter, disqualifies us for resisting, as before, the influences of a reduced temperature. Thus we are often colder towards night, say one hour before sunset, after a hard day's work, our clothing, &c. remaining the same. But why? Simply because our whole system, and consequently our calorific function, is somewhat weakened, and we cannot so well resist the influence of the air which surrounds us, and which is almost always at a lower temperature than our bodies. The same remark is applicable to our condition when debilitated from any other cause.

2. We have already said—we believe—that the temperature of our bodies, so long as we are in vigorous health, remains about the same, viz. about 98° ,* while the tem-

* An exception might have been made in favor of infants, and the very aged or greatly debilitated, whose temperature is sometimes only 94 , 95 or 96° . In fever, moreover, as has been already said, and in some other circumstances, our temperature rises a little, say to 100 or 102° ; or even in a few instances somewhat higher.

perature of the atmosphere in which we live is, for the most part, far below this point. It follows, of course, that our bodies must not only manufacture caloric or heat enough to raise them to a temperature of 98° , but also to keep them there, even in the coldest weather. But this manufacture of heat, in a cold day, when, as sometimes happens, even in our own climate, the mercury is down to 15 or 20° below zero, must be very great indeed. Every one knows how rapidly a body heated to 98° must give off its heat to an atmosphere which is 110 or 120° colder. Nay, heat must even be given off in immense quantities, when we are surrounded all day long, as we often are, by an atmosphere 30 , 40 or 50° lower than the temperature of our bodies. We may form some idea of this by the following experiment.

Let a cask containing 150 pounds of water—the ordinary weight of an adult male—and heated to 98° , be kept constantly immersed in as large a mass of water, as our bodies are of atmospheric air, and let that water be, like the air, at a temperature say of 58 , that is, 40° below the water in the cask. Now suppose again that we possessed the means of heating the water in the cask, as fast as it grew cool, and of keeping it at 98 . Would it not be found to require a very great quantity of fuel? By what power then is it that the human body is able to furnish such an immense amount of heat? By what machinery, within, is such a great and mighty work performed?

And here, we again reply, that we do not know. We know, full well, that the work is performed. We know that all animals—man among the rest—possess this power; and it is a wonderful one. But on what organs it mainly depends, is not well understood. Physiologists have indeed speculated much upon it; and yet after all, very little is known with certainty. Something, we are sure, is done by the lungs. The blood may be, and

probably is, heated a few degrees, in passing through those organs. Something also is done by the brain and nervous system, or by what we might call a product of the action of brain and nerves—a diffusion of vital energy. Something also may be done in the work of digestion. But neither nor indeed all of these causes united, seems to be sufficient to account for the strange result. It may, after all, be performed by the numerous small vessels called the capillaries,—as nutrition seems to be under the direction or control of the nervous energy and influence. Or it may be done—and this we think the more probable conjecture—by the united action and effort of all the living powers.

We have spoken, thus far, as if the communication of heat from the human body to the surrounding atmosphere and the bodies it contains, were not interfered with. But it is for the most part interfered with. Clothes, especially, interfere with it. Clothes confine the heat of our bodies—at least this is their usual office, as regulators of our temperature. In other words, they are or should be worse conductors of heat than the air; and thus by retarding the progress of the heat we are continually generating, (in its attempts to pass off from our bodies,) they keep us warm. They prevent the caloric or heat from escaping from us as fast as otherwise it would.

It may be worth while to remark here, that as it is with all other offices or functions of the human body, so it is with that of calorification. The Creator has made it indispensable to health that it should be properly exercised. Thus, if the temperature of the atmosphere were constantly at 98, so that the calorific function had nothing to do, we should probably ere long, suffer disease in some form or other, as the consequence. It is better for our health that the temperature of the ambient atmosphere should be as low as 65 or 60, or perhaps lower still.

The precise degree which is best for health, were the constitution in its normal or pristine state, is not exactly known. It may be 60, it may be 50 ; it may be more or less. In the present state of things, however, weakened as the human constitution is, we doubt whether it should be lower than 60, as a general thing, in order to preserve most of our vital energy. It may be that a much lower degree of temperature for the young and vigorous, at least occasionally, is desirable. Some physiologists think 30 or 40° better for the lungs, and perhaps for the whole system—for at least a part of the year—than a higher temperature.

The great object of clothing, then—we repeat it—is, or should be, to prevent the atmospheric air from conducting the heat away from our bodies too abundantly or too rapidly. When the temperature of the atmosphere is much above 60, it would indeed seem desirable that the material of our clothing should be a better conductor—and not a worse one—than our bodies are ; but we know of no pliable material of this kind. Some materials, when the heat of the sun and the atmosphere is overpowering, reflect the rays of the former, better than others, and perhaps conduct the heat from our bodies faster than others ; but it is believed that even these, if we do the best we can, render us on the whole, rather warmer than we should be if we wore nothing at all. To repeat what we have already said, therefore, the great point in regard to dress as a regulator of temperature is in view of the state of the surrounding atmosphere and the present vigor of our bodies, to make it retain the heat of those bodies just long enough to prevent our being permanently chilly ; but not long enough to prevent the full action of the system, in the work of generating or manufacturing heat.

True, our leading effort should be to invigorate the system generally ; and with it, the calorific function.

Whatever will do this, we should endeavor to apply ;— we mean whatever will do it permanently. Alcohol and many other things which excite the brain and nerves, will indeed increase our heat for a short time, but it is always at the expense of vital energy and future vigor. That only is done to any practical purpose, which is done by due attention to the non-naturals, as they are called in books—the *naturals*, as they should be called, rather— by which are meant exercise, temperature, air, dress, cleanliness, food, drink, sleep, &c. A proper attention to all these, or, in other words, a proper attention to the laws and relations of the human being, will keep up, in the best possible way and in the steadiest manner, what we have called the internal fire ; and save, as much as possible, the necessity of fires and clothing. It is precisely where the heat of this internal fire fails of keeping us just warm enough, that a necessity of clothing begins.

He who has followed us with attention thus far, will not require us to enter into all the petty detail of clothing, which is to be found in some of our writers on hygiene, and which is usually so grateful to the uninstructed and unprincipled mind. What we have said seems to us to lay open, or at least lead to the true philosophy of the subject we are discussing. The whole secret of the art of dress, considered as a regulator of our temperature merely, is to adapt our clothing to the wants of the body.

One point, which we have not yet mentioned, seems to require a few moments' consideration. We allude to the quality of the material which comes next the skin. There is a strong prejudice in favor of flannel for this purpose, in climates like our own. And yet is it not true that a very large proportion of the inhabitants of our country towns in New England never wore flannel next to the skin in their whole lives ? And are they not as healthy, to say the least, as others ?

Our ancestors, it is true—laborers, we mean, in the open air—a few generations past, wore woollen shirts in the winter, to a considerable extent ; but no wrappers nor any under garments.—Flannel, in its nature, is rather too stimulating to be worn constantly for any considerable length of time next to the skin.

Trained, however, that is, accustomed as most of our people of the present generation are, to this material next the skin, and stimulating though it naturally is, we would not advise its sudden or incautious discontinuance. To men of certain occupations and certain habits, it is probably indispensable in order to secure them from colds, rheumatisms and fevers. For outer garments, as we have already said, we think it very appropriate in the colder seasons. It unites, in one, the purposes of a defence, and a non-conductor, or rather a bad conductor of the heat of our bodies.

Damp air, moreover, when the temperature is not very low, sometimes requires the use of flannel. It is well known that air which is largely saturated with moisture, is a better conductor of heat than that which is drier.

It is also well known to those who have no more than the merest smattering of knowledge in regard to electricity, that damp air conducts the electric fluid as well as the heat, more rapidly from our bodies than dry air. Hence the question may very properly and naturally arise, whether silk, which is an excellent non-conductor of electricity, might not be advantageously worn, not only by invalids, but by the more healthy individuals among us, during damp weather. It is a question which theory would answer in the affirmative ; but we are unable to sustain it by facts. Future experiment may easily settle the question.

We have spoken as if it were no part of our purpose to enter into detail on this subject ; and indeed to the think-

ing and the philosophical—nay, even to those who are well grounded in hygienic principles—it would be wholly unnecessary. But as we write for two classes of people, those who think for themselves and those who do not, we will add a few particulars.

All clothing of the body should be as loose as possible. Ligatures, especially, of every sort should be entirely excluded. The utility of the practice of wearing belts, by either sex, is at the least very doubtful. Even the stock and the cravat are not unfrequently worn too tight.

The reasons for an “injunction” against tight clothing, are numerous; almost too numerous to mention. 1. Clothes moderately loose, are warmer than when worn too tight. 2. They impede the venous circulation, generally; so far we mean, as the surface is concerned. 3. They are unfavorable to free perspiration. 4. Compression over the region of any of the vital organs, as the stomach, the liver, or the lungs, disturbs the action of those organs, and sometimes cripples them for life. 5. The organic derangement thus occasioned, is propagated to the rest of the organs by sympathy or otherwise; so that one member having suffered, all the rest suffer with it. 6. If our clothes are *very* tight, they often prevent the free motion of the body and limbs. 7. Another reason for having our garment loose, may be gathered from our remarks on dress, as a covering.

Our clothes should be adapted, in quantity and quality, to the state of the weather and the nature of our employments. Some people are afraid of *changing* their clothes lest they should take cold. There is no need of this fear, if they are dry. Dampness should, indeed, be especially avoided. But we have seldom known greater freedom from cold than is enjoyed by those individuals who take most pains to adapt their dress to the weather and to the vigor or debility of their own constitutions. In determin-

ing on the necessity of change, however, our own feelings at the moment will often be a very insufficient guide ; in which case we shall be greatly aided by a thermometer.

As to the cut or shape of our garments, as adults, we have but little to say. True wisdom, in this matter, would consist in fixing on a fashion best adapted to our nature and employments, and retaining it. It is a very great evil to have our fashions changing as often, almost, as the moon ; and yet it is an evil which we fear will not soon be removed.

It were greatly to be wished that this matter could be set right at the very threshold of life ; that the infant could be, in this respect, as well as in every other, trained "in the way he should go." Is there not reason to hope for a time when our wishes, on this point, will be realized ? Is physical education, in a christian country, always to be so utterly neglected ?

Why should an infant, when first born, wear any other clothing than is just necessary to keep the heat of his body from escaping too rapidly ? Its parents are its defence, surely ; it does not need clothing to defend it. The nursery, too, is usually about as warm as is compatible with its safety, without much clothing. We are not ignorant that the calorific power of the infant is not so great as that of the adult ; still, this enhances, rather than diminishes, the necessity of dressing it with care. The great point is to invigorate its whole system, and its power of generating heat, among the rest. Whereas, nothing more rapidly debilitates, or at least effeminates the human constitution, than excess of heat.

It is highly probable, not to say certain, that most healthy infants would do better, for a time at least, with no other clothing, except the usual bandage, and a single piece of covering, either with or without arm-holes. This covering might be of linen, cotton or flannel, accord-

ing to the necessities of the season ; though we feel a dislike to cotton, especially for the outer garments of infancy and childhood, on account of its liability to take fire and burn rapidly.

Still we are satisfied it is far better for children to wear linen, or cotton, or silk, than to be dressed too warmly. We are, indeed, afraid of continued cold, productive as it may be, especially when conjoined with other causes, of a long catalogue of diseases, at the head of which is scrofula ; and yet we are much more afraid of unnecessary warmth. The diseases which are produced by unnecessary heat are, if possible, still more numerous and formidable than those which result from a low temperature.

Too much warmth, especially when long continued, renders us, in the first place, more tender, and more liable to feelings of discomfort from atmospheric changes. In short, it exposes us to take cold ; and a cold, besides being a formidable disease in itself, is the parent, most legitimately, of numerous other diseases still more formidable ; among which are rheumatism, peripneumony, consumption and fevers. In the second place, too much warmth, by its enervating effects on the brain, tends, indirectly, to the production of palsy, epilepsy, mania, &c.

These effects may be produced by too much warmth during our sleeping hours, as well as our waking ones. Hence some of the evils of sleeping under too many bed-clothes, and especially of sleeping either *on* or *under* feathers.

One very great evil resulting from living in warm rooms too much, and breathing too much an atmosphere whose temperature is highly elevated, when one which is cooler would answer every purpose, remains to be mentioned. This will show us more clearly perhaps than we have yet seen it, the importance of maintaining our heat, as much as possible, by proper and healthy food, drinks,

&c., particularly the latter—and by a sufficient, but not too great a supply of suitable clothing. We allude to the diminished consumption of oxygen in air of a high temperature.

It is well known to be of the highest importance to the human system, that the lungs should be supplied with plenty of oxygen or vital air, as well as that they should be able to *consume* or *use* it.

Now one of the first effects of an elevated temperature of the atmosphere, according to the experiments of Crawford, M. Georget, and others, is to diminish the consumption of oxygen. This seems to be done in two ways. First, the air being highly rarified, actually contains less oxygen than that which is cooler, and consequently is more dense; and secondly, the power of the lungs to “work it up,” or to dispose of it in the usual manner for the benefit of the system, is greatly diminished. Crawford found that a Guinea pig, confined in air at a temperature of 55 degrees, consumed double the quantity which it did in air at 104. He also found—as might have been expected—that the blood did not undergo, so well, the changes necessary to health. In like manner do geese fatten more suddenly—and perhaps other animals—when closely confined in a very warm atmosphere. Does any one ask what this latter fact has to do with our subject? Very much, indeed; when it is known, as it ought always to be, that geese fattened thus suddenly, are diseased geese. Their livers are not only deranged in their action, but enlarged greatly beyond the natural size. In one word, they are made sick with liver complaint; and if kept beyond a certain number of days, would either become so ill as to grow lean again, or actually die. But there is yet another way in which the consumption of oxygen is diminished by too much heat. It brings great lassitude and consequent indisposition to mental or muscular ac-

tivity whereas a good degree of muscular action is of the greatest importance in enabling us to consume a full supply of oxygen. M. Seguin ascertained, by experiment, that a person using as much muscular exercise as possible without inducing fatigue, consumes four times as much oxygen at the same temperature, as when wholly inactive. This is a most important fact, and taken in connection with the preceding, greatly enhances the importance of depending as much as possible on exercise to warm us, and *as little as possible* on fires, the sun, clothing, &c.

The safest way, in short, is to keep as cool as possible, and yet not feel uncomfortable, in all circumstances ; and when warmth becomes necessary, to secure it as much as possible, by exercise. Exposure, however, even to a little unnecessary cold, for a considerable time, or to a considerable degree of it for a short time, does not debilitate us, or subject us to disease so much as exposure to undue warmth ; because cold seems to rouse to increased effort, the calorific function, as well as the vital organs in general ;* whereas, the whole effects of an increased temperature, are to weaken both. A person may feel quite comfortable at a certain temperature, without the slightest desire to have it more elevated. Yet let that

* Here a caution will be necessary, lest it should be thought that if we can rouse our systems to the manufacture of heat with sufficient rapidity, like the ancient Scythians or modern Indians, we may, like them, get along without any clothing at all. We think, however—and we have good reason for thinking so—that such a conclusion does not follow. For we may so heat our systems with opium, brandy, and other artificial stimuli, that they will manufacture heat with astonishing rapidity, for a little time ; but this unnatural effort exhausts, with great rapidity, the vital powers. Precisely so is it in regard to compelling ourselves, by going naked or otherwise, to manufacture heat beyond a certain point. It exhausts us greatly, and cuts short, in no small degree, our lives. No tribes who go naked, are very long lived.

temperature be slowly and gradually elevated fifteen or twenty degrees, even while his circumstances are not changed, and he will scarcely think himself too warm. But after this increased temperature has been continued for some time, let it be reduced again to its first point ; and will he now be comfortable ? By no means. He will be, in a greater or less degree, a sufferer. Why so ? Because his power of generating caloric, is weakened ; and so, in fact, is his general system.

Surely we have now shown, at full length, the philosophy of this whole matter. The sum is this. Keep warm, as much as possible, by obeying all the laws of health, and by rendering your whole system as permanently vigorous as it can be made. When this fails, call in clothing to your aid ; but use it with some care and caution, lest you use too much, and thereby weaken your internal powers. Lastly, what the calorific powers and clothing fail to do, should be made up by other means, still more artificial—fires, furnaces, stoves and the like.

Here we might enter upon a long discussion of the means and instruments of warming rooms—of fire-places, stoves, furnaces, &c. But our limits will not permit it. A few remarks on one or two kindred topics, are all for which we have room, at present.

We think there is a manifest advantage, in more respects than one, in having our dress, by night and by day, as *light* as possible. Now it happens that a much smaller amount of material whose tissue is loose and porous, will be sufficient to confine the caloric of our bodies, than a much larger amount which is more dense or close in its structure. The former seems to hold the air which is heated by our bodies, imprisoned, as it were, in its interstices ; whereas, the latter conducts it off more readily and more rapidly. On nearly the same principle, clean clothing is warmer than that which has been for

some time worn ; so that here, were it needed, is a new motive to that virtue (we mean cleanliness) which Jeremy Taylor has said, is next to godliness.

Caution ought to be used in regard to wearing an unnecessary amount of clothing, even in cold weather, while we are engaged in walking, or recreation, or labor ; and of removing it suddenly, and sitting without it in a cool or damp atmosphere. In general, it would be better, in such cases, to suffer our clothes to remain on us, instead of taking them off. The evils which an observance of this injunction would prevent, are exceedingly numerous ; and we cannot but urge it on all who value health, to think twice, at least, before they subject themselves, without the most absolute necessity, to their influence.

Many who perceive the bad tendency of too much heat, suppose it necessary to go quite cold, in order to harden themselves. Such persons are very apt to defer, too long, to put on their warm clothing in the fall ; and to exchange it too early in the spring. Now we think that if properly trained, in this respect, we might be governed, at all seasons of the year, not wholly by our own feelings, but partly by these, and partly by the thermometer. There is no sort of reason or sense in keeping on our summer dress during a long and cold storm in August or September, when the mercury is down to 45 or 50 degrees. Nor is it any more reasonable in the nature of things—were we trained rightly—in keeping on the large stock of clothing required by the intense cold of December, during the warm days which often come in January. Remember, however, that those who have been trained not to bear changes of their dress, should use a little caution in innovating upon old habits ; and also that these warm days of January are apt to bring with them a great deal of dampness, and more clothing is required in a damp atmosphere than in a dry one of the same temperature.

The custom, with some, of wearing no garments during the night which they have worn during the day is, in our view, a most excellent one ; and we commend it to all who wish, to the utmost in their power, to promote health and longevity. Nor do we recommend wearing much clothing during the night. The custom of keeping on our stockings, has other evils besides its slovenliness. Nor do we like night-caps. They are less objectionable in the case of those who are extremely bald, and also in the case of those who wear their hair long. But even in the latter instance, the cap should be of net-work, or something which will accomplish the object of keeping the hair in its place, without being thick enough to retain very much heat.

We have thus gone through with the course of remarks intended for this essay. Our purpose, as we have already stated, was to present, in the smallest possible space, and the fewest words, provided we made ourselves intelligible, the true philosophy of clothing and temperature, reserving the particular discussion of the subject under the head, Dress, for a future occasion.

IMPROVEMENT OF THE LUNGS.

THE more we accustom ourselves to breathe a pure air, like that of the open, unimprisoned, uncontaminated atmosphere, the better for our health, whatever may be our condition or circumstances. Those whose employments are comparatively healthy, and who inherit constitutions of body comparatively sound, may in this way greatly improve their condition, and lay up health, as it were, for those who are to come after them ; while those who, by employment or inheritance, or both, are less

favorably situated, can, in this way, greatly diminish the sufferings of future life, as well as prolong greatly their existence. Every successful effort at self-improvement in this respect—every breath of air which, without too much sacrifice, we can make purer than it otherwise would have been—will be so much added to our present stock of happiness, and so much at compound interest for the use and benefit of those who are to succeed us, as actors on life's great theatre. It will—it cannot be otherwise—it will tell upon the future, to the remotest generation.

One thing, therefore, remains to be enforced upon parents and teachers,—the correct education of the lungs and skin. For of what use is it that the air is pure, if we cannot use it? In a large proportion of the community, the lungs are too small to use the air in that large measure which seems to have been originally intended by the Creator; and in almost all they are greatly enfeebled. A person with his lungs as large, as strong, and as active as they might be, is not perhaps to be found in the world; but if not, then no person is to be found whose blood is as good as it might be, and who, of consequence, enjoys as vigorous health as he might enjoy.

It must be conceded—we are free to make the concession—that the worse our lungs are, the greater the importance the little air they can receive and “work up,” should be pure and perfect. Yet the future has richer blessings still, in the world of health, to those who not only breathe pure air, but a large amount of it.

Is it asked what we mean by having the lungs too small? We reply, that we mean just what we say; for it is obvious to the most superficial observer of the form of the human chest externally, that there is an amazing difference in the capacity of different human chests for receiving air. Some persons have the chest a third

larger than other individuals, who are of similar weight, and in other respects of the same size.

Should it be said that the external appearance might deceive us; and that, after all, it remains to be proved by actual experiment that there is much difference of internal capacity, we answer, that it *remains* not to make the experiment, for it has already been frequently made.

Some of these experiments are as curious as they are decisive. Dr. Thackrah examined the officers and privates of a regiment of dragoons, to find the capacity of their lungs, which was done by measuring the air thrown out or expired. The average amount at each expiration, for nine officers, was eight and a half pints; for six of the privates, the same; for four musicians, seven and five eighths; for nineteen other privates, about seven and a half. The largest expiration was by a cornet; it was ten and one fourth pints.

This alone shows a great variety of capacity in the lungs. But the variety is still greater among persons of different employments; for whereas in the above experiment on soldiers, the average of the regiment may be supposed to have been at least *seven and a half or eight pints*, the average among the operatives in the large flax mills of Leeds, was found to be about six pints. Among females, in factories, the average was not more than three and a half pints!! The capacity of the chest in the female should be somewhat less than that of the male; but there should not be so much difference.

The practical inference to be made is, that occupation and circumstances—education, in one word—make a great difference in the capacity of the chest. Now if the greater the capacity of the chest, the larger and stronger the lungs; and if the larger and stronger the lungs, the better for health, then it follows that our mode of employment, our dress, all the circumstances of our physical education

and management, should be such as to give full expansion to this part of the animal frame. On this subject, however, we shall have much more to say, when we come to treat on the evils of *tight lacing*.

One thing should be remembered in connection with this subject, which is truly encouraging. The more we accustom ourselves to pure air, the more easily will our lungs and nasal organs detect its presence. He who has redeemed his senses and restored his lungs to integrity—like him who has redeemed a conscience once deadened, and even seared over as with a red hot iron—is so alive to every bad impression made upon either or any of these, that he can often—we will not say always—detect impurity around or within him, and thus learn to avoid it. It will scarcely be possible for such a person long to breathe bad air, or nauseous or unwholesome effluvia, without knowing it, and learning to avoid the causes which produce it. Such a person will not neglect long to remove the impurities which accumulate so readily on the surface of his body, or suffer himself to use food or drink which induces flatulence, and thus exposes either his intestines or his lungs, or the lungs of others, to that most extremely poisonous agent, sulphuretted hydrogen gas. Nor will he be likely to permit the accumulation of filth, liquid or solid, around or in his dwelling. There are those whose senses will detect a very small quantity of stagnant water, or vinegar, or other liquids, or fruit, or changed food, in the house, or even the presence of those semi-putrid substances, wine and cider.

Some will indeed say—they often do say it—that such integrity of the senses would be an annoyance rather than a blessing. On the same principle, however, would a high degree of conscientiousness in regard to right and wrong in moral conduct, be a curse to us. If it be desirable to have our physical sense of right and wrong be-

numbed, it is so to have our moral sense benumbed also. Yet, what person of sense ever complained of too tender a conscience, or too perfect a sense of right and wrong in morals?

SOLUBILITY OF FOOD.

DR. JOHNSON, in the fourth edition of his treatise on the stomach, relates that M. Gosse, of Geneva, in Switzerland, a distinguished student of nature, possessed the power, by previously swallowing air, of disgorging, at any time, the contents of his stomach, and was thus enabled to ascertain the comparative digestibility—or rather solubility—of different articles of food.* The results of his experiments he has made public, and they are exceedingly interesting. We know of none, of the same general character, which are more so, except those of Dr. Beaumont, of our own country, as presented in his work on the gastric juice. The following is the result of Mr. Gosse's experiments on the solubility of both animal and vegetable food.

I. *Substances insoluble, or very difficult of solution in the stomach.*

Animal substances.—Tendinous parts. Bones. Oily or fatty parts. Hard boiled white of eggs. Skins of fishes.

* There is a difference between solubility and digestibility. Every thing which is digested must, of course, have been dissolved; but there are many things which may be dissolved in the stomach which cannot be fully, or even to any considerable extent, digested. Of this sort are some of the articles mentioned by M. Gosse as soluble or partly so.

Vegetable substances.—Oily seeds. Expressed oils of different nuts and kernels. Dried grapes, raisins, &c. Rinds of farinaceous substances. Pods of beans and peas. Skins of stone fruits. Husks of fruit with grains or seeds. Stones of fruit.

II. *Substances partly soluble and partly insoluble.*

Animal substances.—Pork dressed in various ways. Black puddings. Fritters of eggs; fried eggs and bacon.

Vegetable substances.—Dressed salads of various kinds. White cabbage less soluble than red. Beet root. Onions and leeks. Roots of red and yellow carrots. The pulp of fruit with seeds. Warm new bread with pastry. Fresh and dried figs. Of all these last substances there were parts which were not digested in the stomach, but which were digested, however, while passing through the intestines, though at the expense of considerable irritation there.

III. *Substances soluble and easy of digestion, requiring an hour or an hour and a half for their reduction into a pulp in the stomach.*

Animal substances.—Veal, lamb and mutton; and the flesh of young animals in general, is more easy of digestion than that of the old. Fresh eggs. Cows' milk. Perch boiled.

Vegetable substances.—Celery. Tops of asparagus. Bottoms of artichokes. Boiled pulp of fruits. Pulp or meal of farinaceous seeds. Different sorts of wheat bread, without butter, the second day after baking; the crust more so than the crumb. Brown bread, in proportion as it contains more bran, is less digestible. Turnips, mealy potatoes, parsnips not too old.

IV. *Substances which appeared to facilitate the power of the gastric juice.*

Salt, spices, mustard, horseradish, capers, wine and spirits in small quantities, old cheese, sugar in small quantity, bitters. Gentle exercise.

V. *Substances which retarded the power of the gastric juice in the stomach, and occasioned some of the food to pass undigested into the intestines.*

Water, particularly when taken hot, and in large quantity; acids, astringents, oily substances. Strong and violent exercise.

While we repeat our expressions of gratitude to M. Gosse for his valuable labors, we cannot but wish he had not confounded solubility with digestibility. It is this confusion which has led him to think that brown bread is less digestible in proportion as it contains more bran. Here he means *less soluble*. Of course we do not expect bran to be *dissolved*. Nor do we advocate the use of bran at all, properly so speaking. The skin of wheat, rye, &c., if properly ground, is broken up very finely, and passes off—operating, perhaps, as nature's physic; of which wheat contains just about enough for health. M. Gosse would, of course, find bran, as it commonly is, when separated from the flour, in his rejections; and hence might, very naturally, make the conclusion he did. Again; in his list of substances which facilitate the power of the gastric juice, he makes no distinction between those things which do this by violence, as wine, spirits, mustard, &c. and those which do it in a more natural way, as gentle exercise, and sugar in small quantity. With these cautions we submit the article to the careful consideration of our readers.

PHILOSOPHY IN COOKERY.

WE find in the "Gennesee Farmer," one of the most sprightly, philosophical and useful papers of our day, an article on the advantages of cookery, which is truly interesting and valuable; and which, with a few comments of our own, we hasten to present to the consideration of our readers.

"Water, in certain combinations with vegetable substances, may be considered as converted into a nutritious and sometimes solid food. Every one is aware that a quantity of maize meal, or rice, or any farinaceous substance, will afford much more nutriment when boiled, than a much greater quantity in an uncooked state.

"Count Rumford states in his essays, that for each pound of Indian meal employed in making a pudding, we may expect three pounds nine ounces of the pudding; and he says again, that three pounds of Indian meal, three-fourths of a pound of molasses, and one ounce of salt, (in all three pounds thirteen ounces of solid material,) having been mixed with five pints of boiling water and boiled six hours, produced a pudding which weighed ten pounds and one ounce.

"The gain of weight in rice is more considerable than that of Indian or maize meal; but in either it is so great as to demonstrate most conclusively, the advantages of cooking, for experiments show that the gain in nutritive power of the cooked food, is at least equal to the gain in weight."

We are by no means prepared to admit that the nutritious properties of the cooked food exceed those of the uncooked in proportion to the increase of weight. Such an opinion is indeed much nearer the truth than the sentiment of a writer in the Boston Medical and Surgical Journal of last year, who gravely maintained—we mean *asserted*, for such an opinion cannot be *maintained*—that man can derive no nutriment at all from food which is

uncooked ! But we need not go to extremes on either side. Much of the increase of weight in cooked rice, Indian pudding, and even in bread, is water uncombined ; and therefore can hardly be regarded as nutritious matter, in the common acceptation of the term. Still there is great gain, without doubt, and on the principle of the solidification of water here alluded to ; and the application of human skill in this way, we consider as a legitimate effort of cookery. It is no application of christianity to cookery when it only results in making things worse, or wasting a part of their nutriment. On the contrary, the christian religion points, everywhere, to improvement. But the writer thus goes on with his remarks :

“ That water is capable of conversion into a nutritive solid, is proved by the experiments of De Saussure in the formation of sugar from starch by the action of sulphuric acid. He says, ‘ that as starch boiled in sulphuric acid, and thereby changed into sugar, increases in weight without uniting with sulphuric acid or any gas, we must conclude that starch sugar is nothing else than a combination of starch with water in a solid state.’ It is perhaps owing to this addition of water in a solid form, that sugar is so much superior to starch as a nutritive substance.

“ Some persons may doubt that water ever becomes a solid unless when frozen ; but if they will take the trouble to weigh a few pounds or ounces of quick lime, and then slack it by water, and note its increase of weight, they will have their doubts dispelled.

“ In cooking food, such as the grains, or potatoes, it is clear the water combines with the farinaceous matter in boiling, adding as decisively to its weight, as when united with the lime. Every housewife can, if she will take the trouble to weigh the ingredients used in making a pudding of Indian meal, satisfy herself of this increase in weight ; and by observing its effect as food, test the value of the cooked material over the uncooked or uncombined.”

LIBRARY OF HEALTH.

DOMESTIC POISONS.

By *domestic poisons*, as we here use the term, we mean those poisons with which we are liable to come in contact, and from which great evil sometimes results, in the ordinary concerns of common life. We say nothing, at the present time, of the use of drugs and medicines, properly so called, because we have already made them the subject of a distinct essay.*

The circumstances and duties of civilized life, whatever may be our situation, expose us, continually, to a greater or less degree of danger from poisonous substances. We doubt whether there is a family to be found, in city or country, of those at least who are above the most abject poverty, wholly unexposed.

We are not ignorant that we shall be met, at the very threshold, by a certain class of the community, with the very common objection, that almost every thing in nature contains more or less of poison; and that if a thing contained no *poison*, it would be of no value. Especially is this said in regard to most kinds of food and drink. The very grain and fruits which we eat, contain poison, we are told; and for proof, are referred to the fact, that from all these substances we can manufacture spirit.

* See Health Tracts, No. 1, on Dosing and Drugging.

Now we might, possibly, stop to combat this notion, but for two reasons. First, we have so often shown its fallacy, that it seems to us unnecessary; and, secondly, it is indulged by none but those who are ignorant of the very first principles of chemistry, without reference to which, it is next to impossible to show them the nature of the error they have embraced. It must suffice, therefore, for us to say, that there is not—and never was—a particle of poison in any of these things to which we refer, as long as they are in a healthy and natural state.

In presenting for popular consideration a subject like that of Poisons, we wish it to be understood, at the outset, that it is no part of our intention to frighten people. On the contrary, it is, with us, quite a prominent object to save them from any necessity or danger of being frightened, should a case of poisoning occur even under their own immediate observation. We believe our instructions and cautions will tend to save life, rather than to destroy it.

We have said that, as a community, we are very much exposed to poison. Let us give an example of what might very readily and naturally happen.

Suppose a young man—say a mechanic—from one of our most healthy families, is taken violently sick, with a strange and unmanageable disease. Perhaps he already has severe and painful vomitings, with a sense of suffocation; or at least he has a severe and painful constriction of the throat. Now those who are wholly uninformed on the subject of poisons, would hardly think of tracing the disease back to any circumstances connected with the history or employment of the sufferer; nor would the physician, even if a little more inquisitive than they, find it easy to arrive at the truth through the depths of their carelessness and ignorance.

And yet we venture to affirm, that no reflecting person

who, having had the courage and the patience to follow us through our course of remarks, should afterward witness such a case of disease, would hesitate to say that there are no symptoms here mentioned but what may have been induced or aggravated by at least half a dozen poisons to which the community are daily exposed. We go still farther. We believe that if the whole community could be duly enlightened on this whole subject, a very large proportion of the stomach and bowel complaints of civilized, and especially of civic life, might be traced to poison of one form or another. Or at least, that if they do not originate in this way, they were at least aggravated by them.

Is it not, then, of the utmost importance, that the public mind should be properly enlightened and instructed? Is it still objected that such information would only alarm them to no purpose? Is it said, moreover, that those who are not alarmed will be greatly discouraged, even by the formidable list of poisons contained in this little tract? We do not believe that either the one or the other result will follow, in any great number of instances. We believe that, as a general rule, to which of course, as to other general rules, there may be exceptions, the tendency of light on a subject of so much importance to the happiness of the whole community, will be good, and good only.

It is in this view that we have gone forward in our work. We know of no cheap volume, now before the community, on poisons, in a popular form. We have endeavored to prepare, at much pains and expense, what we conceive to be a safe guide to the community, as far as it goes. It contains no theories of our own, or of any other person. It contains no abstract speculations. It contains nothing visionary. It is, in one word, the results of the experiments and observations of the most scientific

and intelligent chemists, physicians and surgeons of our own and other countries.

Orfila,* a distinguished professor of chemistry and natural philosophy at Paris, and author of a large and small work on poisons, includes under this general term a long list of medicinal preparations, *when given without the advice of a physician*; but for reasons which were mentioned in our first paragraph, the consideration of medicinal substances, for the present, forms no part of our plan.

Domestic poisons, as we have used the term in this essay, are of *mineral, vegetable, or animal* origin; and may therefore be solid, liquid or gaseous.

I. MINERAL POISONS.

Some of the most dangerous substances to which we are incessantly exposed, especially in families, are from the mineral kingdom. The more common of these, among the solid substances, are white lead, red lead, litharge, the compounds of tin, sugar of lead, zinc, copperas, verdigris, arsenic and saltpetre. Among the liquid and aeriform substances derived from or closely connected with the mineral kingdom, are the sulphurous acid, sulphuretted hydrogen gas, and nitric acid, or aqua fortis.

White Lead.—Perhaps it is sufficiently known to our readers, that lead itself, in a pure state, is not poisonous. All its preparations, however, (of which there are twelve

* It was no part of our original intention, to mention the names of the individuals on whose authority our statements are made; both on account of the large amount of space it takes up in a tract, and because we thought it not improbable our readers would confide in our unvarnished story—believing we were in the *possession* of authorities. We have, however, in a few instances, departed from our first resolution, and have referred to authors, especially to Orfila.

or more,) from the simplest oxide* to the most concentrated salt,† are, in the language of modern chemistry, “insidious poisons.” The very “appearance of this metal,” says Fourcroy, “is sad, denoting its dangerous properties;” but this idea may perhaps be regarded as fanciful.

White lead, one of the most dangerous preparations of this article, is very largely used in the arts, especially as a paint. Its color and appearance are well known. It is most productive of disease to those who manufacture it, and to painters. Those who labor long in lead factories, become pale and sickly, and subject to colic of a peculiar and dangerous kind; to be described presently. We have had ample opportunity to witness the terrible consequences of working in lead factories, in the southern part of this city. Those who, by reason of a strong constitution, escape colic for the time, are apt, sooner or later, to be attacked with palsy.

The sufferings, however, of painters, potters, glass-makers, &c., from the fumes of white lead, or from working in it and handling it continually, are more certain, if possible, than of those who only manufacture it. So commonly are painters subject to colic from this cause, that the peculiar form of their disease has given rise in England and other countries to the name of painter's colic. The character which this dreadful disease puts on—making proper allowance for the age, constitution and habits, and other diseases of the person attacked—is in general as follows :

* An oxide of a metal is, in general terms, a rust. The rusts of metals are indeed invariably oxides, but some oxides could hardly be called rusts. Such a definition, however, will answer very well our present purpose.

† By a salt, in chemistry, is meant any body formed by the union of an acid with it. Thus, white lead is formed by the union of carbonic acid with metallic lead.

It begins with short attacks of colic pains, which become more and more frequent, of longer duration, and of greater severity; so great indeed as to be almost insupportable. The mouth is very dry; there is a frequent inclination to vomit; and sometimes the vomiting becomes violent. Joined to these symptoms is a most violent constipation of the bowels. The intestines themselves appear to be so convulsed or cramped that nothing will pass; and indeed the very muscles on this part of the body are sometimes drawn into hard knots or lumps, and the whole region of the bowels becomes excessively painful to the touch. When the disease has reached this stage, if it is not speedily relieved, the spasms and pain become more and more insupportable; the costiveness becomes wholly unmanagable; the intestines become inflamed, and the bowels gangrenous, or, as we commonly say, mortified; and death ensues as a matter of course.

White lead, or carbonate of lead, is sometimes formed on the inside of vessels or pipes, where there is fermentation. If the lead becomes rusted or oxidized, the carbonic acid of cider, wine, beer, apple sauce, and other sauces, and even molasses—for this sometimes ferments in hot weather—may combine with it, to produce carbonate of lead; and this dissolved in the liquid or sauce, may become poisonous, and cause sickness and even death. A Mr. Eaton of Springfield lost his life two or three years since, by drinking cider drawn through lead pipes in which the change had taken place which we have been describing; and this is by no means a solitary instance of the kind.

Whether water itself is ever much injured by being carried through lead pipes, is quite another question. If the pipes were always perfectly full, so as never to be exposed to the air, we have many doubts whether poison would or could be generated in them. But this is not always

the case ; and on this account, as well as several others, lead pipes seem to us wholly unsafe.*

We can readily conceive how white lead may become exceedingly injurious by accident. The reader will observe that we do not say it has been often injurious in this way ; but only that it may become so.

Suppose a country retailer of West India goods, flour, &c., has in his shop a cask of white lead, from which he is taking out, every day or two, for his customers. Presently somebody comes in for a parcel of it, and in weighing it out, it becomes necessary to throw back a little of it into the cask. Instead, however, of throwing it into the cask, the careless clerk throws it into the flour barrel standing near it ; its contents closely resembling it, in color.

Presently a parcel of flour is bought and made into bread, and eaten by some neighboring family. One of them is soon taken sick ; then another and another ; and finally perhaps one or two of them die. Will any one—even the physician—suspect the cause ? Will it not be construed into a judgment of just Heaven ? †

It is hardly necessary to say anything here of the carelessness of those merchants and their clerks, who weigh white lead and flour in the same scales, without so much as brushing them out, in one instance in ten of their use ; both because we do not believe the quantity of lead

* Since the above was prepared for the press, a distinguished physician in Boston informed us that he had at that moment, two patients in a family in this city, whose sickness was evidently induced by drinking water which had been conveyed in lead pipes.

† Since writing the above, we have heard of a case in the western part of this state, exactly in point. It occurred several years ago. No one died, it is true ; but one person who was poisoned is a sufferer to the present time. We could give names were it necessary.

which in this way would be mixed with flour would be sufficient to produce much mischief, and because also we hope the instances of such slovenly carelessness are very rare.

There are other uses of white lead which expose us to disease, but those which have been mentioned are among the more common and important.

Red Lead.—This is an oxide of lead, or is prepared rather from one of its oxides ; and is much used in painting. It is exceedingly poisonous ; but its color is such that it is less liable to be taken into the stomach by accident than white lead. Red lead is sometimes put into wafers. Of this every one may satisfy himself, at once, by fastening them on the point of a pin, and burning them over a sheet of clean white paper, on which the lead, in the form of pure metallic globules, will be precipitated. We do not say that all red wafers contain red lead ; but those which are of the deepest color almost always do, so far as we have examined them.

And yet many individuals—particularly clerks—are in the daily habit of eating wafers ; and we cannot doubt that a part of our diseases of the stomach and bowels have their origin in this very cause.

Some three or four years since, it was stated in the London Lancet, a well known and highly distinguished medical journal, that the secretary of a public institution in England, had recently been “twice attacked with a violent salivation, so as to render medical aid indispensable, from his having wafered five hundred circulars with red wafers, which he had wetted in his mouth.”

Litharge is an orange red substance, prepared also from lead by oxidizing it ; and is poisonous, like the former. The particular oxide from which both these substances are prepared, is called *massicot*. This is of a lively brown color.

All these substances—red lead, litharge, and massicot—from their known cheapness, are much used as pigments or paints, and especially in making confectionary. Is it asked whether confectioners do not know that they are poisons? We reply that we cannot tell. It should, however, be remembered, that not all the dealers in confectionaries in our cities and towns are manufacturers of it. Many of them do not manufacture any thing they sell. Somebody, however, must be the manufacturers; but whether with or without consciences, we cannot say.

That these poisonous oxides are indeed used in the preparation of confectionary, we have the authority of Dr. Fothergill, who complained of it in his day; nor are we without authority in more modern times. Many a time have individuals, and sometimes whole families, been so poisoned by the frosting of confectionary, as to be made severely sick at once. In general, the quantity used in coloring small toys is so inconsiderable, that the poisonous effects are not immediately obvious, especially in the case of children, who are very tenacious of life. No doubt the stomach and all the organs concerned in digestion are more or less disturbed by it, and their whole lining membrane more or less inflamed, even when there is no sensible pain. This is certainly the case, if the experiments of Dr. Beaumont can be at all relied on; and we know not that they have ever been questioned.

One of the more striking instances of poisoning by the frosting of confectionary took place in New York, March 20, 1835. A family of five persons had bought a cake at a confectionary shop, and eaten of it with considerable freedom. Soon afterwards they were all taken violently sick, and for several hours their lives were in the most imminent danger; they, however, at length recovered. The remainder of the cake was examined by Drs. Hosack and Rogers; and on analyzing the colored ornaments of the

upper portion of the cake, called the frosting, they found it to be one fifth part rank poison. We are unable to state from recollection which of the oxides of lead was found; but we believe several of them were used, according to the colors.

There is one extensive use made of the various oxides of lead, which exposes the community to a great deal of suffering, unless proper care is taken to prevent it. We allude to the custom of glazing, with these oxides, the red earthen ware, so much in use in many parts of the country. Its comparative cheapness holds out a temptation to the poorer and middling classes of our population to buy it, while their ignorance of the fact that it is glazed with lead, and of the first principles of chemical science, exposes them to be poisoned by it;—thus rendering true the proverb of the wise man, that the destruction of the poor is their poverty. For what is saved in the purchase of the cheaper utensils is perhaps often worse than lost—yea, ten times told, if not a hundred—in the expense to which they are subjected, in the form of bills for physicians, attendants of the sick, &c., and in the loss of time and health, which is still more ruinous. Is it not known that a very large proportion of the diseases which afflict humanity, fall on the poor?

Is it asked how the glazing can be disengaged from the inside of our earthen ware, so as to prove injurious? Any common acid, especially the carbonic and the acetic, if it comes in contact with it, will at once dissolve it. Who has not seen large portions of the glazing of deep earthen pots, in which pickles and sauces are kept, entirely removed? The oxide of lead in these portions of glazing had been acted upon by the acid, and had combined with it to form acetate of lead—*sugar of lead*—or the carbonate of lead, already described; and the latter had been dissolved again in the substances which the jars contained, and had probably been eaten by somebody.

We have spoken of the evils which result from breathing the fumes of white lead. Of the more common evils of using the acetate or sugar of lead, we shall speak hereafter. At present we wish to add a few remarks on the use of lead in general; and a few facts to illustrate its danger.

Orfila says that "kitchen utensils made with this metal should be banished, because it is attacked by several culinary acids, which dissolve it, producing salts which are poisonous." He might have said, with equal truth, that our red earthen ware glazed with the oxides of lead ought to be banished; for it is so unsafe, especially in the hands of the ignorant, that its use ought not to be retained.

He adds, moreover—"It is very dangerous to drink water that has been kept for a long time in leaden vessels exposed to the air:—if the effects of poison do not immediately follow, it is not long before the person experiences disastrous symptoms, which may even terminate in death. It is equally necessary to avoid drinking well water drawn in leaden buckets. And unhappy consequences have been observed in persons who have drank of rain water, that had been conveyed by leaden pipes, or which had fallen upon roofs covered with this metal, and afterwards been retained in vessels."

We have already described, pretty fully, the painter's colic, produced by breathing, for a considerable time, the fumes of white lead, and by handling it also for some time; and have at the same time more than intimated that there is a degree of poisoning from lead which falls much short of this alarming condition. The truth is, that the symptoms of poisoning by lead vary exceedingly, though the more general symptoms of diseases from long inhaling it are those we have described. When any of the preparations of lead—such as can be dissolved in water—are

received into the stomach, in considerable quantity, the following, says Orfila, are the usual consequences :

“ The patient experiences a sugary, astringent, metallic, disagreeable taste ; a constriction of the throat ; pains more or less acute in the region of the stomach ; inclination to vomit ; obstinate, painful, and often bloody vomitings ;—in short, all the symptoms which result from an inflammation of the stomach.”

Perhaps there is not on record a more striking instance of the terrible mischiefs which may result from the use of lead for culinary purposes, than one which is mentioned by Dr. Eberle, in his *Therapeutics, and Materia Medica*. As we have presented a full account of it in the *Library of Health*, vol. i. page 221, perhaps it is unnecessary to say more than that the inhabitants of Elizabethtown in Pennsylvania, in the fall of the year 1814, suffered severely from a severe colic, of which many fell victims ; but which had its origin in one of the causes of disease we have mentioned in the foregoing paragraphs. The people had supplied themselves with red earthen ware from a new pottery in that vicinity, in which they had put up their apple sauce. The acid of the apple sauce acting on the lead glazing of the pots, sugar of lead or carbonate of lead was generated—perhaps both—and the deplorable results followed to which we have alluded.

A case nearer home than this occurred about a year ago. The mother of a child seven days old, in a family with which we were intimately acquainted, having drunk water from a pail just painted on the inside with a paint prepared with white lead, the child was taken the following night with nausea, pain, and vomiting ; and seemed to suffer severely.

Many people set their milk in red earthen pans. This is highly dangerous ; for the slightest change in the milk will generate acidity, a portion of the lead of

the glazing will be dissolved, and a diseased state of the stomach and bowels will be the consequence.

Sugar of Lead.—Our readers have been already introduced to this very poisonous compound, in the preceding paragraphs. It is most dangerous, however, because most frequently used in that way, in the preparation of wines, syrups, brandies, &c.

In preparing syrups and brandies, they are sometimes clarified with sugar of lead. If the clarification is not well performed, the liquors retain a part of the sugar of lead; and the most terrible results may follow.

It is, however, in the preparation of sweet wines that sugar of lead is so used as to produce the greatest amount of mischief. This substance, as may readily be conceived, sweetens old sour wines, and seems to improve them surprisingly, in other respects. An immense amount of poison is worked up in this way and drank in the course of a year. Indeed there is reason to believe that most wines which tend to become acid by age, are adulterated in this way more or less, in order to conceal both their acidity and their roughness. Litharge is also occasionally used for the same purpose.

Orfila says—"If water or wine containing very little of this metal (lead) be drank, no inconvenience may be felt from it at first; but if the use of these drinks is continued, they ultimately produce a chronic disease, which in general resembles the colic of painters; but which, in certain circumstances, is a true palsy."

It has been said—we know not with how much of truth—that if lead, in the smallest quantity, is received into the human system, it is impossible to escape more or less of suffering as the consequence, although the punishment should be delayed for many years. Instances are on record of disease having occurred, as the consequence of using lead, some twenty or thirty years afterwards.

Tin.—Pure tin is not much used in the formation of culinary utensils. The substance commonly called by the name of tin, is an alloy of tin and iron. To form it, very thin plates or sheets of iron are dipped into melted tin, which not only coats the iron plates, but penetrates them. We believe that the principal common articles made of pure tin—brittania as it is called—are tea pots, cream vessels, and spoons.

But whether made of pure tin or an alloy, they are not injurious as long as they do not rust or oxidate; but the moment they do, they become poisonous. The rust itself is poisonous; and so is every compound formed by every acid which comes in contact with it.

It will be proper here to describe briefly, the symptoms of disease which are induced by the preparations of tin, because they are almost precisely the same as those induced by copper, zinc, bismuth and arsenic; and one description will therefore suffice for the whole.

First, there is a greater or less degree of constriction in the throat. This is soon followed by pain in the back part of the mouth, and in the stomach and bowels, which ere long becomes insupportable. Next follows a sickness at the stomach and occasional vomiting, with constipation or diarrhœa; for sometimes it is one, and sometimes the other. The water vomited, as well as that rejected, is of various appearances, and sometimes bloody. To these alarming symptoms are frequently added very offensive belchings of air from the stomach, with hic-cough, difficult breathing, and a sense of suffocation.

These are the symptoms which appear generally; though of course greatly modified as to number and severity, by the existing circumstances. When the poisoning has been so considerable as to give rise to the whole train of symptoms above mentioned, and is not quickly relieved, a most unquenchable thirst, with dysuria, cramps,

convulsions, and an icy coldness of the extremities, comes on, followed—if no relief still—by delirium and death. Sometimes, however, the delirium is wanting.

This will suffice, as we have already said, for a description of the consequences of swallowing not only tin, but also zinc, copper, arsenic, verdigris of both kinds, and bismuth. But to return to the consideration of tin.

It is not a little remarkable, that while vessels made of tinned plate are more frequently used among us for milk than for almost any other purpose, the acid of which, should it turn acid at any time, would be ready to combine with all sorts of rust on tin to form a poisonous salt, this very milk is the most natural and most appropriate antidote for this species of poisoning. It is on this account, in all probability, that so little suffering is experienced from this source. Tin ware, however, is much used for other purposes than to set milk in; and there can be no doubt that in the hands of unskilful or uncleanly housewives, it is often the cause of much human suffering.

Sulphur combines very readily with tin, if brought into contact with it, forming a new and injurious compound. Eggs, therefore, and other animal and vegetable substances which contain sulphur, should not be cooked or kept in tinned vessels.

Pewter is made by mixing together three parts of tin and one of lead. Cups, plates, and spoons, and many more culinary vessels, have been made of pewter; and so long as they do not oxidate are safe; but the moment they are suffered by neglect to oxidate, they become poisonous.

Zinc.—This metal is much used in the manufacture of boilers, baths, &c., and it has likewise been used for many other culinary vessels. It has also been proposed by some, as a substitute for lead and copper in covering

houses and ships, and in the formation of pipes for the conveyance of water. All this however is wrong; for experience proves that it rusts very easily, and that milk, butter, and every vegetable acid act upon it so readily as to render it wholly unsafe. The French chemists even say that water in contact with it becomes poisonous. Food prepared in vessels of zinc may occasion vomiting and diarrhœa, with all the usual symptoms of metallic poison.

Zinc is an essential ingredient in brass; and it is sometimes mixed with tin and lead in the formation of pewter. Whether it increases the liability of these compounds to rust, we are not certain; but in reasoning from analogy, we are led to think so.

The sulphate of zinc or white vitriol, so much used as an emetic, is of course poisonous—but this belongs to the department of medicine.

Copperas.—This is the common or vulgar name for the combination of sulphuric acid with iron, called by the chemists sulphate of iron. It has an astringent, metallic taste; and is much used in the preparation of ink, and in dying. Vegetables boiled in iron pots and kettles are not unfrequently blackened; which we presume is often the result of a combination of the small quantity of sulphur contained in the vegetables—for many vegetables contain a little sulphur—with a small portion of iron or of its oxides. Of this, however, we are not quite certain.

Nor are we quite certain how poisonous copperas is to the human stomach. Ink, in the preparation of which it is much used, has always been considered poisonous; and it is also used for medicinal purposes.

Verdigris.—Every preparation of copper, when introduced into the stomach, even in the smallest doses, is poisonous. The most common of these however is verdigris.

There are two kinds of verdigris. One of them is called *natural*, the other *artificial* verdigris ; but both of them are exceedingly poisonous.

Natural verdigris is formed by the union of carbonic acid with copper, and is, in chemical language, a sub-carbonate of copper. It is observed on pieces of money—cents and half cents—in soda fountains, and on copper stop cocks. It does not readily dissolve in water ; but if, in drinking water or any thing else which contains it, any fragments or particles of it should be swallowed, it will produce all the symptoms of poisoning. On this account, intelligent chemists advise us never to drink water kept in vessels which have copper about them.

Artificial verdigris—the sub-acetate of copper—will dissolve in water, and whether swallowed in powder or in water, is always poisonous. Too much care cannot be taken to prevent the formation of this substance in kitchen utensils ; and yet, through the neglect of house-keepers, hardly any thing is more common. Sauce-pans, whether of copper or brass—for brass contains much copper—if well tinned and kept perfectly clean, are not at all dangerous, whatever may be cooked in them ; but when they are badly tinned, not only wine, cider, vinegar, currant and gooseberry juice, but oil, and all greasy substances, cause the formation of verdigris, and may occasion the most fatal accidents.

When the substances of which we have been speaking, especially oily or greasy food, are not only *prepared* in copper vessels, but also left to cool in them, the quantity of verdigris formed is apt to be very considerable. It is therefore of the utmost importance to pour off whatever we cook in these vessels while it is still boiling.

It is stated in our more elaborate works on poisons, that people are sometimes made sick by eating salads seasoned with vinegar, in consequence of the previous exposure of

the vinegar, in some way, to copper. Medicines also—whether in the family closet or the apothecary's shop—have, at times, become poisonous in a similar way.

Arsenic.—Fears have been sometimes entertained by families who use arsenic or ratsbane to destroy rats and mice, that these animals, after having gnawed the bait set for them, and before they become sick with it, might gnaw our articles of food, and thus communicate the poison. We do not know whether there is much danger from this source or not.

But there is one use of this substance in modern housewifery, or at least by those who keep dairies, which is exceedingly dangerous, and cannot be too much condemned. It is in the preparation of cheese. We have it on good authority, that part of the cheese in Worcester county, in this state, is prepared in this manner; and we have little doubt that it is so elsewhere.

Arsenic is used in cheese to give to the curds the appearance of having been formed from new milk when it is not so. It imparts a tenderness, and freshness—real or imaginary—which tempts too much the cupidity of our people, to be effectually resisted. If it should be said that the quantity of arsenic used in a single cheese is probably very small, and that very few would be likely to be made immediately sick with it; we grant it. Still, *some* are so, to our certain knowledge; and more may be so. Besides, our readers know very well, before this time, that a person may sustain injury—may indeed be actually poisoned—even though he should not appear to suffer at once. The consequences of receiving poison may be delayed for many years.

Mercury or Quicksilver.—Those who work at the gilding of toys, and buttons, and glass plates, are said to be exposed more or less to the influence of mercury or quicksilver, but in what way, except through the medium

of its fumes, we are not enough acquainted with these occupations to know. Those who work at looking glasses are also peculiarly exposed to dangers. The results of poisoning with this metal may be precisely those which are witnessed in severe cases of poisoning by taking it internally, as a medicine ; first a salivation, and next ulcerations of the mouth and throat, eruptions, rheumatic pains in the limbs, and diseases of the bones. A disease, however, which, if possible, is still more terrible, sometimes supervenes, called mercurial palsy. We say more terrible, because though it attacks suddenly, and disables most effectually, it nevertheless is not apt to destroy life ; but what is in some respects still worse, it keeps up a sort of lingering *dying* death for many years, sometimes for twenty or twenty-five. In fact, we know of no metal—lead itself not excepted—whose effects on our own system we should more dread than mercury.

Nitre.—Nitre or saltpetre is poisonous both to men and animals, whether taken internally or applied externally where the skin is broken. We have the highest authority for asserting its poisonous character, although many physicians make assertions to the contrary. When used in any considerable quantity, it gives rise to obstinate and bloody vomitings, to inflammation of the stomach, and to all the symptoms which have been described at page 342 ; to which we must refer the reader.

Now is it not strange that this poisonous substance should be used so frequently in the preservation of our pork and beef, and yet nobody or hardly anybody suspect it injures them ? The truth is, that as with many other things, so it is, in all probability with this ; the quantity used at once is so small, that the injury is for the most part slow. It irritates the stomach, inflames its lining membrane, and the lining membrane of the whole intestinal canal ; impairs digestion ; affects seriously the liver ;

impairs the nervous system ; and finally either produces serious disease by itself, or aggravates diseases induced by other causes. And yet should any or all these evils come upon us, we refer them to something else—to almost any thing else—rather than to the true cause. So ignorant are we, and withal, so infatuated !

We have now considered, briefly, all the more important of the solid metallic poisons to which we are exposed in the more common walks of life—exclusively of medicines, which, for the present, as we have already said, we purpose to omit. There are one or two more substances, however, of which we wish to say *a few words*.

Bismuth in one of its forms—that of *magistery of bismuth*, as it is called by the chemists, or *pearl white* by the vulgar—is very poisonous ; and we have no doubt produces, in the fashionable world, not a little disease. We refer to its use as a cosmetic, or paint for the face. It not only prevents perspiration, by stopping the pores, but it also gives rise to chronic diseases, such as rheumatisms, nervous complaints, &c.

Pearlash is regarded by some as a narcotic ; but if so, it is a poison, and its frequent employment in cooking requires this passing notice. There is no doubt that it ought to be banished from our tables, and confined to our shops, especially to the shop of the apothecary.

Sulphur, in its simple state, can hardly be said to be a poison ; although some of its *compounds* are very poisonous. Among these is the liver of sulphur or sulphuret of potash. Its effects on the human system are much like those of nitre, only more dangerous.

We have before us an authentic anecdote of a lady—a distinguished countess—who, having swallowed by mistake a small quantity of liver of sulphur at a bathing house, expired in a few minutes. Happily, however, it is not much used in the arts at present, so far as we know,

except in making glass, and soft soap, and in the use of medicated baths; and those who let alone all medicine except when it is prescribed by a physician, need not come in contact with it, except in the use of soap. And even here its effects must, as it seems to me, be greatly neutralized by the oil with which the liver of sulphur combines.

There are several compounds of sulphur with other substances, either in the liquid or gaseous form, which are very destructive to human health and life. Among these are the sulphurous acid, and the sulphuretted hydrogen gas.

Sulphurous acid, if inhaled in its pure state, is instantly fatal; and even a small quantity of it, if mixed with the air we breathe, produces cough and difficulty of breathing. The greatest danger from it in the arts—where it is much used for bleaching—is in bleaching straw, paper rags, &c. There is, however, some danger from it in burning several kinds of coal, if the air from the stove is suffered to escape into the room. In burning several parcels of Lehigh and Schuylkill coal, we have often discovered a strong sulphurous smell in the room. We repeat it; this smell should always warn us of danger, and lead us to exercise caution.

Sulphuretted hydrogen gas, which is so apt to accumulate in the slightly debilitated stomach and bowels, and which is evolved also from necessities, and from many decaying substances, as from putrescent eggs, is a very rank poison. Air containing a thousandth part of it, if inhaled by birds, kills them immediately; that which contains a hundredth part kills dogs; and that containing a fifteenth part, horses. It is even exceedingly injurious to the human intestines, wherever they contain it, and to all the vital organs, as it penetrates the membranes, with astonishing rapidity, poisoning wherever it goes.

When this gas is inhaled in large quantities, the following are its effects, from which the reader may judge of its deadly nature ; smaller quantities producing of course symptoms less severe in proportion.

In a little time after breathing sulphuretted hydrogen gas, in considerable quantity, the individual is deprived of sensation, consciousness and motion ; the body is cold, and the lips and face violet ; a bloody froth escapes from the mouth ; the eyes lose their brilliancy, and become closed, with the pupil greatly enlarged and motionless ; the pulse becomes small and frequent ; the heart palpitates and moves irregularly ; the breathing is short, difficult and convulsive, and the limbs relaxed. To these symptoms, however, soon succeed others of a still more dangerous character. The limbs and moving powers of the body become agitated or convulsed, and the body is sometimes bent backward ; severe and acute pains are experienced ; the groans or expressions of suffering resemble more the bellowing of a bull than any thing else ; and if no relief can be had, the scene soon closes by death.

But we have said so much about this gas, in our treatise on "BREATHING BAD AIR," that it is unnecessary to add more in this place, except to say a word or two, in connection with its existence in eggs. It seems to be a product of decomposition and putrefaction ; but is it uniformly so ? If it is, we seldom get our eggs for the table, without being a little putrefied ; for a silver spoon is almost always discolored when put into eggs, which proves the presence of the poison in question ; as the sulphur leaves the hydrogen to unite with the silver. Are our eggs, then, almost always in a state of incipient putrefaction when we eat them ? But whether they are so or not, they are always more or less poisonous when they contain sulphuretted hydrogen gas ; and they always contain this gas, when they blacken our silver.

Nitric acid, or aqua fortis, which is much used in the arts, is an exceedingly strong poison ; but we are not enough acquainted with its particular effects to say much concerning the forms of disease it induces ; besides, we want the space for the discussion of other topics.

THOUGHTS ON DRESS.

THE errors of dress have often been exposed ; and yet people go on in nearly the same way, and with nearly the same indifference—so far as can be discovered—as if nothing had been said or written.

We show them the *folly* of certain *forms* of dress ; for example, as the high hat, with a bell-shaped crown, or the high-heeled boot, or the narrow, ungraceful shoe, all the way of a size from heel to toe ; but they are fashionable, and whodares to be singular ?

We show them the waste of property which the present fashions in regard to dress involve—both as to form and material—especially by the changes which are ever recurring ; as often, almost, as those of the changing moon. “ But is not our property our own ? ” they at once reply ; “ and have we not a right to dress as we please, and follow what fashions we please ? All makes labor for mechanics, and gives increase and scope to commercial enterprise ; and is not this a blessing to the community ? ” Such objections to touching the subject of dress with the hand of reform, seem to satisfy the consciences of hundreds and thousands of otherwise good people ; and they repeat them from generation to generation, with as much gravity as if they really had weight, and act just as they would act if they were settled and undeniable truths.

Or again, we plead the danger of certain forms of dress to health. We speak of dressing unnecessarily warm in the summer, and of using too little clothing in the winter; we complain of the thick hat, and cramped shoes; the hard stock and other tight ligatures; and, above all, of the tight corsets and their usual accompaniments and appendages worn about the chest. We talk of the very great injury which the lungs sustain, even when immediate disease is not produced; and of the thousand diseases which are either originated or aggravated in this way—diseases of the solids and the fluids. Perhaps we even attempt an estimate of the number of victims, annually, to this species of suicide. At one time, we reason; at another, we plead; at another, we complain and denounce; at another, we ridicule or reproach. But all to no purpose, or next to none; we again say—Fashion requires this self-torture—this self-immolation—this self-murder; and who shall dare to resist her mandates?

Perhaps, indeed, here and there an individual, impelled by conscience and christian principle, has become emancipated. We know, in fact, of *some* such—we wish we knew of more than we do. But they are scattered and insulated cases; a blessing to the individuals themselves, but scarcely known to, and therefore scarcely influencing, any body around them.

We are not in favor of written laws in regard to fashion and dress; but we do wish there were a law of public opinion—christian opinion, rather—which should compel, or in effect compel people to be rational on this subject.

We do wish, most anxiously, that a standard fashion in dress, devised in accordance with the laws of health and life, as well as those of the christian religion, and adapted in its form, to all countries, climates, &c., could be introduced.

In these circumstances, and with these feelings, and views, and wishes, often recurring, it gives us no little

pleasure to meet, occasionally, with such letters as the following—received from a worthy and excellent minister of the gospel. It shows us that there are those who sympathize with us, in the work of christian reform, and who are willing and desirous to *do* something. May the suggestions of this valuable letter receive that attention from our readers which they so richly deserve !

“ L——, Oct. 7, 1839.

“ Dear Sir :—You are deeply sensible of the immense and fatal injury which the prevalent fashion of ladies’ dress is producing. The wreck and ruin are becoming more apparent every day.

“ We have long been talking on this subject. The alarm has been sounded by the first and most honorable in your profession. And yet, in many cases, their wives and daughters continue in the path to ruin. The question has come up before my own mind, recently, more than ever before, whether we are doing any thing of consequence, to remedy or prevent the evil. Has all our talk, and writing, and lecturing, done much for reform ? Or are we likely to do much, until we adopt some definite rules ?

“ The human family are only semi-rational. They are governed as much by passion as by reason. As long as it is *fashionable* to dress tight, not more than one in a hundred of our young ladies will have reason, and principle, and independence enough to dress as they ought. To be out of fashion is to them like being out of the world. Shall we, then, accomplish much, until we make some definite movement to change the fashion ? This was our first efficient effort in the cause of temperance.

“ Suppose, then, that an attempt be made, definitely, to introduce a new fashion. Let a few ladies of taste, judgment and principle, unite to devise a fashion of dress suited to the frame and constitution of woman. A little

counsel from one like yourself, who is familiar with the *structure of the house*, might be very beneficial.

"So far as appearance is concerned, any thing that is fashionable looks well to the multitude; but still, a fashion which is made with reference to health and character, would have greatly the advantage in a virtuous community.

"Let us, then, try to get a fashion *well-devised*, and then let the effort be made to enlist votaries. Let the friends of reform begin by example, with resolution and independence to carry it through, and might we not hope to carry the thing so far in a little while, that an adherence to a bad fashion would be considered rather as a token of bad morals?

"I present this, dear sir, as a suggestion for your consideration and your opinion. What do you think of such a measure? Can any thing be done? Must we look upon these desolations of health, and virtue, and happiness, without being able to do any thing effectually to repair them? When and where shall a new movement commence?
B."

We are not in favor of multiplying *associations* even for the purposes of physical reform; and yet we are free to say, that if an association of the right stamp, whose aim was to effect the object which our friend has here pointed out, were duly organized, we should take a deep interest in the success of its plans, and would co-operate with it in its efforts, so far as our time, influence and opportunities might enable us, according to our correspondent's suggestions.

On this subject, however, we have said a great deal elsewhere, especially in a late tract on "Clothing and Temperature," and in one of the chapters of a work about to be published, entitled, "The Young Woman's Guide to Excellence."

OPIUM AND THE OPIUM TRADE.

A MIGHTY revolution is going on in China, which, while on the one hand it should put to blush the friends of health and morality in other countries, should at the same time be hailed with general joy. For though we have many a deadly traffic carried on among us, despite of our better knowledge and louder pretensions, yet we ought, as philanthropists and even as christians, to rejoice to see other countries, though we may choose to call them uncivilized, acting the more truly philanthropic and christian part, in removing any of the fetters of this sort which bind them. Freedom from slavery to unnatural and injurious stimuli, in China, will not only have a benign influence on the "Celestial Empire" itself, but must inevitably aid, directly or indirectly, in hastening the glad day of universal emancipation.

We have not room, in our present number, for what we intend to say, sooner or later, on this great subject. A few thoughts and suggestions preparatory to a more extended view, must suffice for the present.

There is opium-eating among us—even in our own United States—to an extent of which most persons are not aware. Men are not so easily reclaimed from their love of excitement—we might even say their slavery to it—as some suppose. Deprive them, by the force of public sentiment, or by any other means, of spirits, and not a few will use, either openly or covertly, the more wine, or cider, or tea, or coffee, or tobacco, or opium.

We do not say that this is always the result, for we hope and believe better things; but we do say that it is a result far more frequent than we wish it were. There are those in whom conscience and the force of moral principle have acquired an ascendancy, which needs the as-

sistance of no substitutes. There are men who rise at once almost to perfect freedom. Still it is to be regretted that their number is not larger.

There are townships in the interior of our country, where apothecary shops are by no means numerous, in which from one to two per cent of the adult population use this poisonous drug, as a daily stimulus. So far as our own observation has extended, the average proportion of those who resort to opium for their supposed daily strength, appears to be about five in one thousand in the country, and ten in the same number in the cities.

But let us suppose this estimate—the best we can make—to be correct. The number of opium-takers in the United States, at the present time would, at this rate, be about 95,000. These may consume about \$300,000 worth of opium a year, at first cost. What is used for medicine, must amount to \$200,000 more, making an aggregate of \$500,000.

It may, indeed, be true, that it is only in a few districts of China that opium is much used. Still the comparison between the two countries may not be uninteresting or unprofitable.

According to statements made by the Rev. W. H. Medhurst, in his work on the state and prospects of China, the following has been the consumption of this drug for each of the several years mentioned, in that empire ;

	Chests.	
In 1816,	3,210	valued at \$3,687,000.
1820,	4,770	“ “ 8,400,000.
1825,	9,621	“ “ 7,608,205.
1830,	18,760	“ “ 12,900,031.
1832,	23,670	“ “ 15,338,160.
1836,	27,111	“ “ 17,904,248.

When, however, we shudder at the idea of the consumption in the “Celestial Empire,” of probably to the

amount of nearly \$18,000,000 a year for opium, let us remember that this is only about \$750,000 a year to a population equal to our own ; at least, if China contains as many inhabitants as is now generally supposed. So that, on this supposition, the people of the United States already consume two thirds as much of this drug as China, for the same population.

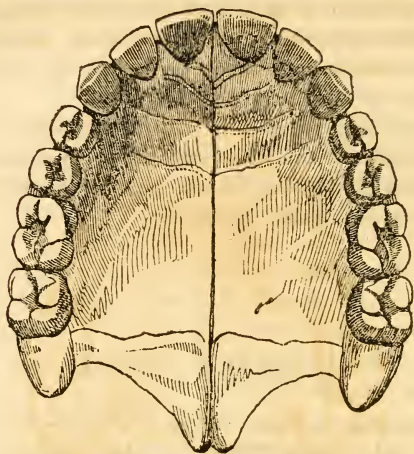
The consumption of this article, moreover, is every year increasing ; and who can tell but the current which has hitherto set towards China, may be turned, by speculators, towards our own country ?

DISEASED TEETH.

In attempting to show, in our late work on "Tea and Coffee," that the usual forms in which these beverages are received, are highly objectionable, we have presented a recent letter from a Dentist in New York, which contains some of the most striking illustrations of the position, that hot and warm substances, especially liquids, by being frequently received into the stomach, are liable to injure the teeth, which we have yet seen.

The letter was accompanied with two drawings. The first of these drawings, which is inserted below, represents the upper jaw and teeth of an individual, born and educated in a southern clime, who, until his recent visit to our continent, had never used any of our popular medicines, such as tea, coffee, alcohol, tobacco, opium, calomel, salts, or any poison, mineral or vegetable. Nor had he often tasted flesh ; and whenever he had done so, it had been prepared in the most simple manner, without seasoning of any kind, either as condiments or gravies.

His diet had consisted chiefly of the fruits of the earth, in their natural state, without any artificial preparation ; and his drink, pure water.

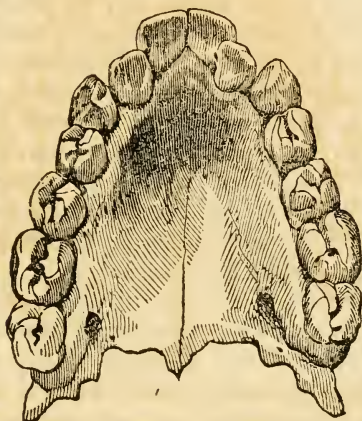


"You perceive," says the work on "Tea and Coffee," "that the jaw is a perfect arch, well developed ; the teeth regular and even—not encroaching upon one another," as if nature had not room to do her work perfectly, "but all in the order and place the Maker assigned them, and causing neither pain nor inconvenience to the possessor."

The second drawing represents the jaw of a young man about sixteen years of age, of very different habits from those of the former individual. He had long been in the habit—as well as his parents and grand-parents before him, of eating flesh three times a day, drinking tea, coffee, &c., and of having his food prepared with all our modern fashionable accompaniments, such as spices, seasonings and sauces. He was also in the habit, from the age of six years and upward, of chewing tobacco.

How different his jaws appear of which the engraving

below will give you an idea. The jaw, though contracted, contains all the teeth; as if nature was willing to do her part, had she been sustained by a healthy supply of materials from the digestive and chyle-preparing organs, instead of being crippled in her endeavors, and obliged to leave her work half completed.



It is easy to perceive how irregularly the teeth are formed; how they crowd upon each other; and how much of their beauty as well as utility is destroyed by the imperfect development of the jaw. And yet, this case is only a specimen of what exists all around us. Distinguished dentists tell us that not one person in a hundred of the rising generation, especially among the higher classes of society, has perfect jaws and teeth. And while the causes which contribute to this result are numerous, none are more efficient, perhaps, than hot drinks, particularly hot tea and coffee.

INFIRMARY FOR DISEASES OF THE CHEST.

THE Massachusetts General Hospital, in Boston; the McLean Hospital for the Insane, at Charlestown; the Marine Hospital, at Chelsea; and many other public institutions in and about Boston, are, we believe, already pretty extensively known. Perhaps, however, it is very far from being known to all, that in addition to these, we have numerous smaller hospitals or infirmaries; some supported, in whole or in part, by public bounty, and some by individual charity. Thus we have eye infirmaries; ear infirmaries; infirmaries for curing club feet, and spinal distortions, &c.; and among other things of the kind, is an infirmary for curing diseases of the chest, especially those of the heart and lungs.

This last establishment was set on foot in February, 1837; and is under the direction of four enterprising physicians—Drs. Perry, Bowditch, Wiley and Smith. We learn from the second annual report of this institution, a copy of which has just been sent us, that no less than seventy-three cases of disease of the chest, have received more or less of attention; some of which, notwithstanding the apparent obstinacy of their complaints, have been completely cured.

We take great pleasure in noticing this infant institution and its results, because it is, in every respect, a public charity—and, as must be admitted by all, a noble one. We are, moreover, personally acquainted with one or two of the physicians, and have full confidence in their general faithfulness and skill. We wish the number of such institutions, provided they could have the right sort of men at their head, might be doubled and trebled.

LIBRARY OF HEALTH.

DOMESTIC POISONS.

(Resumed from our last number.)

II. VEGETABLE POISONS.

WE are much oftener exposed to the evil influence of poisons from the vegetable than the mineral world ; nor are the former less deadly than the latter. We are aware that the public sentiment tends otherwise. The general cry is against *mineral* poisons, especially mineral *medicines* ; nor are there wanting those who ought to know better, and who yet labor hard to extend this error. There are poisons in the vegetable kingdom so active, that a single drop of some of them, collected in a highly concentrated form from the substances in which it is found, is sufficient to destroy the life of a small animal ; as a rabbit, a fowl, or a cat.

The number of vegetable poisons to which we are more or less exposed, is exceedingly large—medicines, we again say, not included—but we shall confine our remarks, principally, to a number comparatively small ;—the few to whose ill effects we are most exposed. Of these, are ergot or spurred rye, mushrooms, tares or darnel, lettuce, butter-cup, anatto, bread mould, exposed potatoes, unripe or decayed fruits, and fermented and spirituous liquors. The fluids we have mentioned are not, indeed, vegetables ; but as they are manufactured by the

aid of vegetables, and often become poisonous by adulteration or otherwise, it will be proper to treat them under this head.

Spurred Rye, or Ergot.—Rye is subject to a disease which changes its form and nature, and renders it poisonous. The kernel becomes covered with a brownish or violet colored substance, which is curved and elongated somewhat in the shape of a horn or spur; hence the name of spurred rye; although medical men call it ergot. The spurred grains break easily, snapping off with a slight sound like that of a dry almond. The bread which contains spurred rye has in it spots or points of a violet color; and sometimes a shade of the same color is communicated to the whole mass.

Few substances in the vegetable world are capable of doing more mischief to the human constitution, than this. Fortunately, however, this poison is not wholly unknown, and much pains is usually taken to guard against it; nevertheless it has sometimes been suspected of doing great mischief. Severe diseases in the state of New York have sometimes been attributed, in part, to its influence. It is found but rarely, in any considerable quantity, in New England. During the present year, as we are credibly informed, it has been observed in some parts of Massachusetts. In various parts of Europe, especially in Germany, its devastations have, at times, been dreadful. Though, as we have already said, its appearance among us has been more rare, and its evils less dreadful, than in the old world; yet it seems highly desirable that its character and history should be well understood.

Ergot is sometimes used as a medicine; and when thus used, has very singular as well as very powerful effects. Of course it is not as a medicine that we are about to speak of it, at present; but as an article which may become mixed with our food. In order to know the

danger to which we are exposed, it is necessary to describe the symptoms to which it gives rise.

Bread containing a small quantity only, of this poison, has the following effects. First, there is an uncomfortable pricking sensation of the feet, followed soon by acute pain in the stomach, and an inclination to vomit. It is not long before the hands and head are affected ; the fingers being contracted to such a degree that the strongest man is scarcely able to straighten them ; while the joints seem as if dislocated. The sufferer utters the most piercing cries, and is tormented by a fiery heat, or burning of the palms of the hands and soles of the feet.

After this, the head becomes heavy ; the sufferer becomes quite intoxicated ; the sight is as if covered with a thick cloud, so that vision is often double, and is sometimes even lost ; the intoxication increases ; a delirium or a stupor comes on ; the body is drawn backward in the form of an arch, not wholly unlike one of the most prominent symptoms in the beginning of lock-jaw ; a yellow greenish or almost bloody froth issues from the mouth ; the tongue swells, and is convulsed, and sometimes torn with the convulsions ; there is also a difficulty of speech and of respiration. After these symptoms have been continued for a time, if no more of the bread is eaten, they give way ; the patient has a most voracious appetite ; and if he does not indulge it too much, he often recovers.

But when the poison has been received in a large quantity, or continued too long a time, the disease begins with great heat and very sharp pain of the toes. The pain ascends, and after spreading over the foot goes to the leg. In the mean time, the foot becomes cold, pale, and afterwards dark colored. The leg now becomes very painful ; the cold ascends into that, and the foot becomes insensible, so that the sufferer can neither move nor support himself. The pain is more severe in the night than

during the day, and great thirst is experienced ; although neither the appetite nor any of the vital organs appear to be much disturbed.

But the crisis now approaches. Violet spots, with blisters, begin to make their appearance ; the limb becomes mortified as high as the knee, and is finally lost. After the separation of the limb, if the sufferer is taken good care of, there is usually much hope that he may recover.

Such, according to Orfila, are the terrible effects of this terrible poison. In America, however, the symptoms which have been more frequently attributed to it, have been somewhat different ; owing, perhaps, to the fact that the disease was blended with something else. From the effects which ergot produces, as a medicine, however, every physician knows that its consequences, when taken long as food, cannot but be dreadful.

Great watchfulness ought to be observed in harvesting rye, to see that it contains none of the ergot ; and if found, great pains ought to be taken to separate it—which must be done with the hand, as it does not readily, or at least in every instance, float on water, and cannot, therefore, be removed by washing. As it is much larger than the healthy rye, however, the separation is by no means difficult, though it may be slow.

Spurred Corn.—It appears from the inquiries of several medical men, that in Colombia, in South America, corn is very subject to a species of *spur*, which, though it does not destroy life, causes, when eaten by men or animals, a great deal of suffering. Men who eat it, lose their hair, and sometimes their teeth ; swine lose their bristles, and become emaciated and feeble ; mules lose their hair and have their hoofs swell ; and apes, parrots, dogs and deer that eat it, fall down as if they were intoxicated. The spur is pear-shaped, and is of a dark color, sometimes black. Whether this species of vegetable poison has been

found in the United States, or indeed any where else except in South America, we are not informed.

Wheat Rust.—The black rust, sometimes found on wheat, according to the French chemists, is somewhat poisonous, producing pain in the stomach and slight headache, when eaten in bread, in the proportion of one part of the rust to sixty-four parts of flour. No instances are on record of its having induced serious disease; nevertheless, a knowledge of its tendency may enable us to trace out, from time to time, the cause of some of our lighter complaints.

Unripe Grain.—Wheat and other grain, according to Christison and other writers, when cut before they are ripe, or used, though ripe, immediately after they are cut down, are more or less injurious to health. Several epidemic diseases have been ascribed, in France, to unripe wheat. Among the rest, was an epidemic dysentery, which, in 1793, laid waste several departments of the Oise. According to the testimony of M. Bouvier, in a memoir read to the Society of Medicine, in Paris, in the year 1801, whenever the state of the weather, or any other cause, has induced the French peasants to cut their wheat and grain—their wheat, especially—in an unripe state, epidemic diseases have been observed to rage in the latter months of autumn.

The connection between unripe fruit, green corn, &c., and the bowel complaints of autumn, has long been observed; but whether the mischief results, always, through the agency of a poison, is not, we believe, yet determined.

Mushrooms.—So much has been said and written in regard to mushrooms, that it seems almost unnecessary to mention them. And yet, so long as there are people in the world who, in other matters pass for sensible people, seem determined to persist in the foolish practice of eating them, just so long will it be necessary to repeat our cautions.

Several species of mushrooms are particularly dangerous; but they are all, more or less injurious when they grow in the shade, or in thick forests where the sun does not penetrate. Perhaps it may aid those who are determined to eat them, in making their selection, to be informed that the poisonous ones have their surface moist, and their appearance more or less dirty and ugly. Those which are still more dangerous have their surface quite wet, and exhale a sickly odor. Their skin or envelope, on being cut, presents several colors; the shades of color changing readily or rapidly. We are also cautioned against the use of those which have been bitten by insects and abandoned, as well as against those which grow quickly, have soft stems, and early decay.

The sufferings induced by eating mushrooms, though they do not generally manifest themselves till six, twelve, or even sometimes twenty-four hours have elapsed, are terrible, and often end in death. But we have no room to describe them. Nor need we, if people would take advice on the subject;—if they would eat good and wholesome food, and let alone mushrooms of every kind.

Tares, or Darnel.—Bread containing a considerable quantity of darnel, or tares, according to the best authors—for we have never seen the substance of which we are now speaking—gives rise to a dangerous illness, which thus manifests itself. The person affected, experiences general or partial tremblings of the body, a sort of intoxication, almost continual tinkling in the ears, great heaviness in the head, often accompanied with pains in the forehead, and much difficulty in speaking and swallowing. Breathing is also difficult; the stomach is painful, and there is an indication to vomit, followed by drowsiness. We do not know that the disease ever terminates in death.

Lettuce.—Garden lettuce is poisonous; but not so poisonous as it has sometimes been represented. A small

quantity of it eaten once or twice can have but little effect as a poison ; although it undoubtedly deranges the stomach, especially when we add to it vinegar, oil, butter, molasses, and the like. Galen used to eat it at supper time—its narcotic or poisonous properties favoring sleep.

It is the strong scented lettuce, the *lactuca virosa* of the books, or as it is more commonly called, milk-weed—growing about our ditches and hedges—which is so very poisonous, and which has probably been confounded by authors with the garden lettuce. We are not aware that the milk-weed is ever eaten, except occasionally, its young shoots—and then they are eaten boiled, for greens.

The Crowfoot, or Butter-cup.—This plant is productive of an immense deal of mischief in our towns and cities, and not a little in country places. It grows, however, with the greatest luxuriance, where the soil has been enriched by hot, rank, recent manures ; as about our houses and barns, and in the immediate vicinity of populous places. The plant may be known by its beautiful yellow blossoms, about as large as the outer covering of the acorn, and not unlike it in shape ; and by its intensely burning and biting taste.

Dr. Bigelow, of this city, in his Medical Botany, gives the following description of the butter-cup :

“It is so powerful that it speedily inflames or corrodes the lips and tongue, if kept in contact with them. In the nostrils, it acts as a violent sternutatory,” (i. e. having the power to excite sneezing). “If swallowed in considerable quantity, it brings on great pain, heat and inflammation of the stomach ; and it has even occasioned convulsions and death.”

There are ten or twelve different species of butter-cup, all except one of which are poisonous ; and six of them exceedingly so. The bruised buds, leaves, flowers, &c., of two or three of them, have been formerly used by

physicians, to blister the skin. They generally operate to produce their effect in about half an hour after they are applied.

This practice, however, of blistering with the butter-cup, has been of late chiefly discontinued ; perhaps on account of the difficulty of managing it. For, though it is found less liable to produce that painful affection called strangury, than cantharides, or *flies*, it is apt to produce deep, ill-conditioned ulcers. Tissot, a German physician, mentions an instance in which an application, made to the thumb, caused a deep, painful ulcer, which penetrated to the bone, and was not cured for many months ; and another, in which the blister spread, in a few hours, over the whole arm, causing fever and delirium, which were followed by such a tendency to gangrene (or mortification) that the limb was with difficulty saved.

We are the more particular in stating facts in relation to this plant, and the views of medical men concerning it, because its poisonous nature is so commonly denied. We have a few more authorities still. Our readers will soon see their bearing.

Krapf, an Austrian writer, some years since, made many experiments with the butter-cup ; some on dogs and some on himself. Two drops of the juice of one species of the plant produced acute pain in his stomach, and a sense of inflammation in the throat. A larger quantity brought on vomiting and great inflammation of the stomach in a dog.

Prof. Murray, of Gottingen, quotes the account of Krapf in a work of his own ; and with apparent approbation. He speaks, moreover, of a woman whose " arm became so far mortified by being poisoned with the butter-cup, that her tendons and even her bones were laid bare."

Dodonæus, a Belgian physician, says that it is dangerous and deadly for sheep ; and if they feed on the same,

“ it inflameth their livers, and fretteth and blistereth their entrails.” He was speaking of all the various species of it.

Gerard, another medical writer, confirms the statements of Dodonæus.

Linnæus speaks of its poisonous character ; and in confirmation of his views concerning it, tells us that the beggars in Sweden were accustomed to cause ulcers on their feet with it, in order to excite the pity and extort the charity of those who passed by them.

Haller, the distinguished physiologist, quotes an author as saying, that the livers of horses which had fed on this plant, “ became rotten and full of little bladders of water, as well as small animals resembling flounders.” He also says that sheep and cattle are both injured by it.

Curtis, in his *Flora Londinensis*, says that instinct usually directs animals, so that they avoid plants hurtful to them, and that hence they usually avoid the butter-cup ; but that under some circumstances—in a domesticated state—“ they will err, and become poisoned or diseased.” The latter statement is confirmed by Haller. Mr. C. further says, that the mere pulling up the common species growing in our meadows, excited inflammation in the palm of his hand ; but the skin of some persons is less sensible than his.

Dr. Whitlaw, of London, confirms the general views advanced above, and so does Dr. Hooper in his *Medical Dictionary*.

Orfila says that five ounces of the juice of this plant, introduced into the stomach of a dog, destroyed him in twelve hours. He mentions twelve species of it, and says they are all “ equally poisonous.” “ It is well known,” he adds, “ that whole flocks have perished from grazing in pastures where this plant was common.”

Even Dr. Salmon, physician to Queen Anne, in speak-

ing, in his day, of the various species of this plant, says they are "but little better than poison, by reason of their ulcerating property."

We may also add, on the testimony of Dr. Whitlaw, that some of the Indian doctors in the western part of the state of New York, use the butter-cup successfully in the cure of cancer; which is, to us, a sufficient indication of its poisonous nature.

The bearing of all this testimony, as we have already said, may be easily seen. If it produces inflammation and ulceration in the stomachs of the animals that eat it, must not the milk—to say nothing of the flesh—of our domestic animals be affected by it?

We believe it to be generally known, that the milk of any animal is liable to contain, unchanged, more or less of the substances which the animal itself eats. There are several bitter herbs eaten by cows during the summer, which every one can recognize in the milk. Even carrots, where the cows feed upon them, mild as they are, are often tasted in the milk.—But this is not all, nor the worst. Poison taken by an animal that gives milk, is particularly apt to affect the milk. Thus poison eaten by a cow or sheep, may destroy the calf or the lamb, while the mother remains uninjured.

How is it, then, with the milk of cows in the neighborhood of our cities and towns, where the butter-cup grows in the greatest abundance? Do you say that they do not eat it, if they can avoid it, at least as long as they can get sweeter food? True, they do not in general; but according to Mr. Curtis, they sometimes do. Indeed, they very often do, when the pastures become short. Besides, it is difficult for them entirely to avoid it, where it exists in great abundance, and is mixed with the other grasses. But if it were possible to avoid it during the summer, it is impossible to do so in the winter, when it is mixed with

the hay. Then, if at no other time, our cows must eat it largely; and their milk must be as largely poisoned. We say nothing, at present, of the effects of this poison on the flesh of fattened animals; because we know but little about it, except that such flesh cannot be very wholesome.

The following compendium of the general effects of the butter-cup on the human system, may apply, with slight variations, to all the poisonous vegetables we shall describe.

Butter-cup, taken into the stomach in any considerable quantity, produces an acrid, biting, more or less bitter taste; a burning heat, and great dryness of the tongue and other parts of the mouth; a painful constriction of the throat; an inclination to vomit, with many efforts to do so, even when the stomach is empty; acute pains in the stomach and bowels; vomiting and purging; a strong and frequent, though regular pulse; difficult and rapid breathing; a tottering gait like that of a drunken person, and an enlargement of the pupil of the eye. If nothing effectual is done to check the progress of the disease, the sufferer falls into such a state of depression, that one would, at first, think him actually dead; the pulse becomes slower and slower, and loses its force; and he now actually dies.

Bread Mould.—A case of poisoning with mouldy bread occurred at Hammersmith, England, eight or nine years ago, the particulars of which, according to the London Lancet, were as follows:

The wife of a parish beadle purchased, one morning, a loaf of bread, of which she ate a slice at breakfast. Her son, twenty years of age, ate two slices of the same bread toasted. Almost immediately after the meal, both of them became unwell, and diarrhœa, vomiting, and soreness of bowels came on; and it was some hours before the symptoms could be subdued.

On inquiring, it appeared that though the bread was baked that morning, it had on it a very singular black, green and yellow mould, and was so tough, and yet so soft, that it could be drawn into strings. It also tasted very unpleasantly, and smelt disagreeably. It was examined by chemists, but there was no known poison in it. A piece of it was now given to a dog, which occasioned symptoms like those which had been suffered by the man and woman. Another experiment was tried on a person twenty-two years of age. Five grains of the mould were collected apart from the bread, and taken without any ill consequences; after which a small piece of the bread was eaten, which produced colic and diarrhœa, as in the cases before mentioned. Another experiment of a different nature was tried. Some common dough was allowed to become mouldy in a moist place. The mould was then carefully removed, and the dough was baked. The bread thus made had precisely the same poisonous qualities with those we have described.

It is certain, therefore, that bread mould is a dangerous poison; and if it is not often eaten, in any considerable quantity, it is at least desirable to know what might be the consequences, were it eaten.

Of bread itself, we had not intended to speak, because it is, in general, so comparatively excellent. However, as poison has been used in it in other countries—we mean now, especially, baker's bread—there is no certainty that it may not be in this; and it is but fair to put our readers in possession of the facts on the subject.

The use of alum in bread-making is very ancient; and as we are informed, has extended to this country. It strengthens the paste, and, as the bakers say, "makes the bread swell large." Lime, we are told, is also sometimes used; but we know not for what particular object. Neither of these, however—nor yet hartshorn and magnesia—is

so injurious as white vitriol; nor is this so bad as blue vitriol, or the sulphate of copper. And yet they are all used in bread in the old countries.

Thirteen bakers were condemned by the Correctional tribunal of Brussels, in January, 1829, for mixing blue vitriol with their bread. Like alum, it makes the loaves white, light and large, though, like all these mixtures—pearlash itself, and even yeast not excepted—it makes it rather tasteless; it also causes more water to enter into its composition, which of course adds to its weight.

We have thrown out the idea, that pearlash, and even yeast, diminish the sweetness of the bread. Perhaps the effects of pearlash are not direct; but those who use pearlash, saleratus, &c., usually get into a lazy way of letting their bread become over-risen, which of course diminishes its sweetness. All raising of bread, of course, by consuming a part of its saccharine matter, diminishes its richness. The sweetest and most perfect bread is that which is made from the simple meal and water, without any raising at all. If pearlash be a narcotic, as some suppose, it is injurious on that score; and in any event, it is most safe to avoid it.

Exposed Potatoes.—Our readers doubtless are aware that the potato belongs to the family of plants called by the general name of *solanum*; and that all the members of the family, except the common potato, are poisonous. It is also said by naturalists that the latter becomes poisonous in certain circumstances; as, for example, when it grows uncovered by the soil. Whether every part of the potato thus exposed is poisonous, or whether the poisonous portion is that alone which lies above the soil, and which usually has a greenish brown color, we are not informed. Decayed potatoes, as we have reason to believe, are also slightly poisonous; but for this last opinion, we have no particular reasons to give, except the general fact of the

danger of putrefaction in vegetables, (which is also considerable,) and the consideration that other decayed bodies having similar sensible properties.

Anatto, or Otto.—This substance is procured from the seeds of a plant called the *bixa orellana*, a native of Mexico. Its chief real value is as an astringent in the dysentery of warm climates. It is unfit to be used, as it often is, to give a peculiar color to cheese, and is, withal, said to be slightly poisonous. What can be more strange than that custom should have so long sanctioned its use?

Imperfect Fruits.—There is great reason for believing, as Parkes has intimated in his Chemical Catechism, that many of our green fruits and other crude substances, which have a slightly rough sour taste, contain more or less of oxalic acid. But oxalic acid is essentially a powerful poison; and cannot be taken into the stomach in any considerable quantity, without very great danger. It is found, in greatest abundance, in sorrel; and hence the danger of suffering children and other persons to eat it. Whether it affects our domestic animals in the same way as it does ourselves, we do not know. It cannot but affect their milk.

But much more danger, we believe, is to be apprehended from the *poison* of decaying or putrescent fruits, than from that of those which are unripe. We have long entertained this opinion, on the ground that putrifying substances must, from their very nature, be more or less poisonous; and this view of the subject is confirmed by many facts, among which are the following:

Among the islands at or near the mouth of the Piscataqua river, are found an abundance of wild raspberries. They usually ripen in July; but do not often fall off till August. A gentleman from Portsmouth, on a party of pleasure excursion among these islands, in August last, ate freely of the fine looking raspberries which he found

there. In a few hours his tongue became very sore ; and the next day the inside of his cheeks became very sore and stiff. On mentioning the fact to an elderly woman, in that vicinity, she remarked that experience and observation had taught her that these berries were poisonous in the month of August. He resolved to pursue the matter a little further, and having waited a few days till his mouth was well, he ate a few more of the berries—a dozen or so—and with the same effect, precisely, only not in the same degree. Others of the same party, and several boys in the neighborhood who ate of the raspberries, were affected in a similar manner.

Now there can be no doubt in the mind of any individual who has the least knowledge of the laws of the human constitution, that such soreness of the tongue and mouth, when induced by any thing we have eaten, seldom if ever exists until the inside of the stomach and perhaps considerable portion of the lining membrane of the small intestines is inflamed and ulcerated in a similar manner. When, therefore, we find children or adults, in fruit time, with sore mouths, or with sores about their mouths, lips, or nose, we may be pretty sure there is soreness and inflammation deeper in the body ; and it is ten to one but poisonous fruit has had some agency in the matter. And whatever produces such effects, we may regard as poisonous.

Our readers, perhaps, know that mulberries, raspberries and strawberries, are in perfection but a very short time, indeed—the mulberry, only a few moments—after which they begin to decay. And though they may adhere for sometime to the vines or trees on which they grow, they are, nevertheless, in a state of decay, if not of putrescence, as soon as they are past the state of perfection. Apples and pears, and many other of the large fruits, are not only slower in coming to perfection than most of the berries

and smaller fruits, but they also decay more slowly ; yet even a decaying apple, or pear, or peach, is unwholesome.

Fermented and Alcoholic Drinks.—All these are poisonous in their very nature, since there can be no real fermentation without the production of a greater or less quantity of alcohol. Thus alcohol not only exists in rum, brandy, gin, &c., but also in every kind of fermented wine ; in cider, ale, porter, perry, mead, and small beer. The agitation of soda water, and several other mineral waters, is not a true fermentation.

Many of the wines, however, contain other poisons besides alcohol. This is especially the case with wine and ale, or as it is commonly called *beer*. We will begin with a few remarks on the adulterations of wine.

We have alluded, in another place, to the adulteration of wines which have acquired acidity or sharpness, with sugar of lead and litharge, in order to sweeten them ; and to its terrible consequences. Orfila says that those who drink the liquors containing these preparations—and he assures us they are very common, especially the adulterations with litharge—experience, sooner or later, the constriction of the throat, pain and inflammation of the stomach, and bloody vomitings, which we have elsewhere mentioned. Both the white wines and the red wines are often sweetened in this way ; and it would be surprising that the amount of disease from it, in the community, should not be vastly greater than it is, were it not from the difficulty of detecting it in its mildest forms, and especially when it comes on a considerable time after the poison has been received, and is usually connected with other and serious complaints.

We have spoken of the use of alum in bread, as if it were not very poisonous. If it is used, however, in any considerable quantity, and is long continued, the digestion becomes painful, and it gives rise to vomitings, obstruc-

tions, hemorrhage, &c. But alum is also employed to give a redder appearance to some kinds of wine, and also to give them more astringency.

Wine is sometimes adulterated with arsenic, or rather with arsenious acid, which renders it exceedingly poisonous. But this fraud is said not to be very common. Its consequences would be so terrible, that the authors of it would be too easily detected, and too liable to be punished. Antimony is used rather oftener; and so is copper.

Brandy is often added to wines to give them increased strength. Pure wine, though it contains—if fermented at all—more or less of alcohol, has it, nevertheless, so combined with its other properties, that it can hardly be detected by the smell. But when brandy is added to it by the maker or vender, it gives it a more penetrating odor. When, therefore, we can smell wine at a considerable distance from our faces, we should beware. If the use of brandy and lead, or brandy and alum is resorted to—as no doubt it often is—the consequences must be very injurious indeed.

Much of the wine of this country is fabricated by mixing together cider or brandy, with log wood, sandal wood, or some other coloring substance; and by adding to the whole, a little lead. Not that the log wood or sandal wood, of itself, is very poisonous; but neither is it very wholesome. There is one way of keeping clear of all danger from this quarter, however; which is by drinking nothing but water.

We have mentioned only the poisonous substances which are added to the fashionable mixtures called wine. It is hardly necessary to speak of oak bark, willow, quassia, raisins, sugar, whortleberries, cherries, &c. which are often used in wine for various purposes, as

they can hardly be said to injure it, materially, and some of them not at all.

Wine and distilled spirits are sometimes put into food. When the addition is made before baking, the spirit is dissipated by the heat; but when it is added afterward—we mean when the cake, confectionary, &c. is “wet down” with it, the effects must, of course, be injurious.

Ale.—How far our manufacturers of ale, in this country, have followed in the track of the brewers of Great Britain, we do not know. We only know that human nature is much the same, in its essential ingredients, on both sides of the Atlantic; that the love of money is not usually diminished by sea-sickness, in crossing from one continent to the other; and that the following substances are used by the British brewers, viz., opium, tobacco, nux vomica, St. Ignatius’ bean, cocculus indicus, henbane, aloes, oil of vitriol, copperas and alum. Of thirty-six other vegetable, animal and mineral substances—some more and some less injurious—we shall, at present, say nothing; nor shall we attempt to show to what extent this strange liquid compound is imported and used among us.

Were there doubts in the minds of any, in regard to the poisonous nature of the substances we have mentioned, we will just observe, that the cocculus indicus, a berry from Malabar, is so exceedingly poisonous, that if swallowed, it brings on fainting and convulsions; that St. Ignatius’ bean is so virulent that half a bean is sufficient almost to destroy human life; that nux vomica contains a principle within it, half a grain of which will kill a man in fifteen minutes, and one sixth of a grain, a dog in two minutes; and that the poisonous nature of opium is well known.

Odors, &c. of Flowers.—Those persons, says Orfila, who live with impunity in apartments filled with odorous flowers, will with difficulty be persuaded that it

would be impossible for certain individuals to remain even a few minutes in them, without experiencing disagreeable symptoms, such as headaches, inclination to vomit, fainting, convulsions, &c.; experience proves, however, that such is the fact. The odor of the rose, the carnation, the honey-suckle, &c. have sometimes occasioned the effects described. And historians relate instances of certain great personages having been poisoned by perfumed gloves, or by the vapor exhaled from poisoned torches.

We have ourselves been acquainted with the case of an individual who could not inhale, without great suffering, the odor of rye blossoms; but whether it was because they poisoned him, we never knew. In any event, we may learn one thing from the testimony above, which is, to avoid the emanation of plants which we know to be poisonous; for if the rose and honey-suckle have as much power, on particular constitutions, as Orfila has represented, poisonous plants around us cannot be safe.

We do not like the custom, so prevalent, of keeping flowers and plants in our apartments, for they all give out, during the night, more carbonic acid gas than they take up, so that they are certainly unhealthy thus far. Carbonic acid gas, inhaled into the lungs, as is well known, is a noxious agent; and if it does not go so far as to destroy life, or even to injure the health immediately, it can never be safe. Its evil consequences may fall upon us, remotely, when we little think of it.

Here we fear we shall approach more closely the province of medicine, than in this essay we had intended. There is a very large class of what are called *acrid* plants—some of which, indeed, we have already described, but others we have not—which by themselves or the principles they contain, are strong poisons, irritating and inflaming, according to Orfila and other distinguished chemical and medical writers, those parts of the human

system with which they come in immediate contact. Among these are the poppy, the butter-cup, spurge laurel, celandine, horse leek, &c.—indeed all plants which have an acrid taste, and contain acrid principles. How numerous these are, is known only to those who have made botany a favorite study, and who have some knowledge of *materia medica* and pharmacy.

A great number of substances in common use, to which we have already but barely adverted, and some, indeed, which we have not yet mentioned, are classed by the best writers as poisons. Not a few of our readers may be surprised to find, in this class, the acetic, citric, oxalic and tartaric acids. The first of these is the acid of vinegar; the second, that of lemons, and perhaps a few other fruits; the third, that of sorrel; and the fourth is used in the preparation of soda water, so frequently drank as a beverage, even by the healthy. It is true that all these are usually received into the stomach greatly diluted; but can they be wholly innoxious? Are not alcohol, and tobacco, however small the quantity, always in a greater or less degree poisonous?

The alkalies, also, though belonging, perhaps, to the *mineral* poisons, are set down in the same class. Among these are pearlash, saleratus, sal soda, lime, &c. How much the latter two of these substances are used by bakers in making bread, crackers, &c., and the former by almost every body, is presumed to be well known. Of nitre or saltpetre, another substance of the same class, we have already spoken.

ANCIENT RULES OF HEALTH.

THE Medical Institution at Salerno, in Italy, which was founded, as it is supposed, in the ninth century, but flourished most during the twelfth and thirteenth, was the nursery—so says the *Encyclopædia Americana*—of all the medical schools of Europe, and is the principal source of modern practical medicine. As it was at this time, that is, about the year 1000, that Arabian Medicine, under Avicenna, reached its highest point of celebrity, it is highly probable, not to say certain, that the school or university of Salerno, contained all the wisdom of the Arabian physicians.

We found, not long since, a most singular book, called “The Regiment of Health,” printed more than two hundred years ago in black letter, which purports to be a sort of commentary, or paraphrase of the dietetic doctrines of the famous medical school at Salerno; which doctrines, it is well known, were once circulated widely, in the form of verse. As we have reason to believe the book to be what it pretends to be, we cannot help regarding it as a great curiosity. It probably embraces much of the practical wisdom not only of Avicenna, but of Hippocrates and Galen, and the other great masters in medicine of ancient times, as well as that of the distinguished professors at Salerno.

We have transcribed a part of the first chapter of the old English work to which we have alluded, not only for its curiosity, but also for the sake of its truths, though they are expressed in a homely manner. It seems that a set of the Salernian verses had been addressed to the king of England and France, at his particular request.

“ All *Salerne* school thus write to England's king,
And for man's health these fit advices bring,
Shun busy cares, rash angers which displease ;—
Light supping, little drink, do cause great ease.
Rise after meat, sleep not at afternoon ;
Whatever Nature's need, expel them soon,
Long shalt thou live, if all these well be done.”

“ This right fruitful and necessary book was compiled at the instance and for the use of the most noble and victorious king of England and France, by all the doctors of physic of the university of *Salerne* ; to the intent that a man should know how to keep his body in good health.

“ The author, in the beginning of this book, teacheth eight general doctrines, the which hereafter he specified and also declared at length.

“ The first doctrine is, that he that desireth health of body must eschew and avoid great changes, thoughts and cares. For thought drieth up man's body, hurting and leaving the spirits in desolation, which being so left, and full of heaviness, drieth up the bones. In this doctrine are comprehended melancholy and heaviness, the which so greatly hurt the body : for by their operation the body waxeth lean and cold, the heart shrinketh up, the wit and understanding waxeth dull, the reason is troubled, and the memory utterly marred. Yet, nevertheless, it is very expedient for fat and gross people to be sometimes pensive and heavy, that thereby they may moderate the rank heat of their spirits, and make their bodies leaner and more slender.

“ The second doctrine is, to eschew anger ; for anger (in like manner) drieth up the body, and exceedingly chafeth and inflameth the members. And too great heat, as *Avicenna* saith, drieth up man's body.

“ Secondly, anger hurteth through heating and inflaming of the heart, and it hindereth, also, the operations of

reason. Some there be that naturally, either by sickness or chance of poison, are cold ; for such to be angry is very necessary for their bodily health, that their natural heat (by such means) may be stirred up, secured and kept.

“ The third doctrine is, to eat and drink soberly ; for eating and drinking excessively, causeth us to be drowsy and slothful, hurting and enfeebling the stomach. Many other inconveniences, as Avicenna saith, grow and change through excess of meats and drinks.

“ The fourth doctrine is, to make a light supper. For too much meat being taken at night, causeth and engendereth gnawing and pain in the stomach, unquietness, want of rest, and other griefs, which we feel and see by experience.

“ The fifth doctrine is, to walk after meat, moderately. For thereby the meat descendeth to the bottom of the stomach, where resteth the virtue of digestion. For the mouth of the stomach desireth food, and maketh digestion.

“ The sixth doctrine is, to eschew sleep immediately after meat, which causeth health and avoideth divers infirmities.

“ The seventh doctrine is, to attend to nature’s demands as soon as they are known ; for he that restraineth himself longer than nature requireth, shall find great pain, and so it may chance that death shall follow thereon. Also to keep the dregs and superfluity of man’s food any longer than nature requireth, engendereth many inconveniences in the body. For the liver and veins do dry up (for the most part) the humors of the aforesaid superfluity, and so they be made hard, and cannot be avoided, and this causeth oppilations in the intestines, and ventosities ; and so it may chance it breedeth imposthumes.

“ The eighth doctrine is, that one should not much use force and constraint ; for in so doing, the hemorrhoids and

fistula shall grieve him, and the intestine many times is disordered and thrust out of its proper place.

“Finally, the author saith that whoso will observe the aforesaid doctrines, shall live long in good health and prosperity.”

Here follows another shor chapter, or another part of a chapter, from the same source. We would not be understood as concurring in all the sentiments of the compiler, or of the famous verses which he quotes, and upon which he comments. We should hardly be willing to admit the physiology of the fifth doctrine, or that part of the second which says, anger is sometimes useful to health, although related upon the authority of “all the doctors in physic of the university of Salerno.” Still there is much of truth in nearly all of these precepts, and of important truth too.

“When physic needs, let these thy doctors be,
Good diet, quiet thoughts, heart mirthful, free.”

“Here are taught three general remedies, whereby to preserve in health all creatures, and especially noble men. The first is, to live joyfully; for joy and mirth causeth man to be young and lusty. By moderate joy and mirth, youth is conserved, natural virtue comforted, the wit sharpened and stirred up, and thereby man is more prompt, quick, and of ability to do all good and honest operations. For it is not said without a cause, that our joy and mirth ought to be moderate. For when it is without measure, it engendereth death, both bodily and spiritually. This moderate joy is most convenient for them that have much care and trouble. Which joy may be got by the use of delicate meats and drinks, and by avoiding such things as engender and cause melancholy, by dwelling and accompanying among our friends.

“The second remedy is tranquillity of mind, of understanding, and of thought. For noble men, through their great business and charges, are much more grieved and troubled than other meaner persons. Great care of mind and understanding destroyeth the natural rest of man, which is most expedient for noble men; for they most commonly are naturally dry and choleric; and therefore for them, rest and quiet are right profitable and convenient.

“The third remedy is moderate diet; that is, to eat and drink moderately. As after shall be declared, what inconveniences grow through excess of meats and drinks.”

We have another chapter still, which, for want of space, we reserve for one of the early numbers of our next volume.

DANGER OF USING SPECTACLES.

IN a late number of the Boston Medical and Surgical Journal, is a most important article on the use of Spectacles, which we commend to all our readers. Dr. Smith is very much at home in speaking or writing on the eye; and here he can be fully trusted. In noticing a book on the eye, recently written by Dr. Wallace of New York, he goes on, in the following strain, to inculcate one of the very doctrines we have long taught, and for which, among other things, we have incurred, even from the doctor himself, the charge of heresy; and concludes his remarks by saying—“*Let the eye entirely alone*, is the doctrine which we hope will be, as a general rule, every where promulgated.”

“It is one of the gross mistakes of approaching age, that people at such times imagine a necessity for specta-

cles, when, in fact, in eighty cases out of a hundred, the eye-sight is positively injured by them. If we tamper with our eyes, and interpose glasses between the cornea and the object, a re-modification and re-adjustment of the parts within necessarily follow ; and when this new arrangement has once been established, it is no easy matter to restore the organs to their primitive condition.

“ Age brings with it a relaxation of the tension of all the tissues, and the eye suffers temporarily with the entire system, but soon re-acts, having within its own constitution a principle of adaptation, according to the circumstances, and habits, and condition of the individual. From forty-five to fifty, a period when glasses are erroneously supposed indispensable, were they not resorted to at all, although there is a defective vision at the former focal distance, in reading, for example, the sight would soon begin to improve, and finally, to all intents and purposes, in a majority of instances, would be re-established.

“ It is a law, and strange it is, that its indications are not more observed, that the eye, at every period of life, will accommodate itself to the wants and necessities of the individual—provided it is not artificially deranged. Imperfect vision, the evils of near-sightedness, and the misfortune of not seeing distinctly in old age, were never heard of as being numerous.

“ We do not deny the utility of spectacles after they have been once resorted to ; but we perfectly agree with Dr. Wallace in saying that they are rarely necessary. Near-sighted children are often kept in that state through life by being early furnished with concave spectacles. Withhold them altogether, and the eye would, in exact obedience to the laws of its organization, adapt itself to the labor required. But when the glasses are once put on, they must ever be retained.

“ Incalculable injury has been the result of the fashion-

able folly of wearing quizzing glasses. Both gentlemen and ladies in the spring tide of youth, whose eyes are without a single defect, peep through these useless appendages of supposed gentility, till a permanent and incurable difficulty ensues, which time has no power to correct, which consists in a want of agreement in the focus of the two organs. Unless the surface which the image impinges on the retina perfectly agrees in both eyes, there will be distorted and indistinct vision—such as this kind of object or prospect glasses produces.”

ALL WRONG IS SIN.

WE have sometimes been censured for regarding every departure from the rectitude of physical law as a species of sin. Such a use of terms, it is thought, tends to lower down, as it were, the moral law and its penalties, and even to confound all our customary notions of right and wrong. The following extract from the Vermont Telegraph, however, presents a very different view of the case. The writer was laboring to show that all “*unrighteousness is sin.*”

“Every species of departure from the eternal principle of *right*, constitutes sin:—the consequences of which, prove it to a perfect demonstration. For God made the world right, as it should be;—and man also was made in every particular exactly right;—the operation of every principle with which creation was constituted, was adapted to promote the happiness of every part of its inhabitants—consequently, whatever produces misery in place of happiness must be sin. It bears its own proof, and exhibits its own credentials.”

Some may smile at the idea of attempting to prove what is made known on almost every page of the Bible, that "all unrighteousness is sin;" that "sin is a transgression of the law," &c.; for nobody, they will say, ever disputed it. But have such persons thought, fully, what the law is—its spirituality, heighth and depth, length and breadth? Have they thought that God has established physical and intellectual as well as moral laws? Have they duly considered that God is the author of the natural law by which a person who falls from a precipice a hundred feet high is dashed to pieces, and that as far as proper care might have prevented the accident, it is a sin? That he who takes cold when he might have avoided it, or is the unnecessary means of causing others to take cold, actually commits sin—and is, in some degree, a suicide, or a murderer?

Let it not be said that the Bible doctrine, that all unrighteousness—every thing which is in any measure a voluntary wrong—is sin, is already received, until mankind believe that there is indeed natural or physical, as well as moral law, and that the same God is the author of both. Nor let those who have not had opportunity to reflect on the subject, be too forward in denouncing those who are solicitous that the whole being, "body, soul and spirit," should be not only rendered "blameless," as Paul expresses it, but be preserved so, till "the day of the Lord Jesus."

SLAVERY TO OUR APPETITES.

A NUMBER of the Boston Mercantile Journal, some months ago, contained the following article, which we commend to the notice of all our readers; and especially of a few medical men who continually strive to repel the charge which we so often bring against our countrymen, of excessive alimentation. Medical men generally give credence to the testimony of Mr. Combe; they will not, therefore, as we trust, attempt to shut their ears to the sound of his voice on the subject of eating and drinking.

“ Mr. Combe, while delivering one of the Franklin lectures in this city a few weeks since, in the course of some physiological remarks, alluded to the propensity of the Americans for good living. He said that the greatest difficulty which he had experienced since his arrival in this country, was how to resist the temptations to eat of the great varieties of rich food which surrounded him on every side. And this close observer of human nature was right—the Americans, as a people, are exceedingly fond of good eating and drinking. Indeed, this is their chief and most approved mode of testifying joy on any extraordinary occasion. If a distinguished man, a soldier or a statesman, is supposed to have deserved some mark of distinguished honor, he is invited to a public dinner, and is feasted to his heart's content amid the cheers of his assembled and enthusiastic friends, who regard every appropriated mouthful of the choice viands, or swallow of sparkling champagne, as a further extinction of the debt of gratitude which they owe him for his services.

“ And in private life, if a gentleman invites a few friends to assemble at his house, instead of providing an intellectual entertainment, such as would do honor to human

nature, he caters merely to gratify the sensual appetites. Not only his most important, but his only care is to provide for the occasion a great variety of expensive delicacies to tickle the palate—and the more successful he is in thus laying temptations in the way of his guests to eat and drink far more than nature craves, the greater is his own gratification, and in all likelihood the gratification of his guests, who laud him without measure for his excellent taste, and unbounded hospitality.

“In like manner, if a lady gives a party, the first question she asks herself is, what entertainment she shall provide. She accordingly sets her wits to work to devise a variety of *refreshments*, which shall be abundant and genteel; and her pride and gratification are in direct proportion to the variety and excellence of the means produced to gratify the unnatural longing of an epicure. And the guests, for days afterwards, in canvassing the character of the entertainment, instead of speaking of any intellectual pleasure which they derived from the party, dwell with much gusto on the variety of cake, ices, comfits, syllabubs, fruit, wines, &c. &c. which were produced and demolished on the occasion.

“Eating and drinking, therefore—to our shame be it said—seem to be an important part of the business of our lives; and a foreigner may be forgiven for supposing that we conceive the *ne plus ultra* of human happiness to consist in a well furnished table.”

REMEDIAL EFFICACY OF BREAD AND WATER.

WE are far from being desirous of compelling mankind to live on mere bread and water; though we are often charged, by our wise newspaper critics, with having in our heart such a nefarious design. We believe in variety of food—a far greater *real* variety than is now usually received or enjoyed;—not indeed, at the same meal, but at different ones. Still, we do not hesitate to say and believe, that three fourths of mankind in civilized life, pursue a course in respect to diet, so manifestly erroneous and injurious, that an exchange of *their present diet* for one of mere bread and water, would be greatly in favor—inconceivably so—not only of health, but of actual enjoyment. It would do more to remove the manifold ills to which people are every where subjected, and to which they often seem to suppose flesh is heir, than all the pills and panaceas with which our age so liberally abounds, and by whose influences our grave-yards are so prematurely filled. Nevertheless, we say again, there is a far better way than either.

Let those who doubt the remedial influence of bread and water, read the following anecdote of Henry the Eighth and the Abbot. It has, indeed, been often told; but it is not the less true on account of its age, or general publicity.

“Henry the Eighth, having lost himself, one day, while hunting in Windsor Forest, he at last got to the abbey of Reading, where, being in disguise, he passed as one of the king’s guards, and, as such, was invited to dine with the Abbot. A sirloin of beef was the principal dish, on which his Majesty fared heartily. The Abbot, observing his appetite, said, ‘Well fare thy heart! and

here, in a cup of sack, I remember the health of his grace, your master. I would give a hundred pounds on the condition that I could feed so heartily on beef, as you do. Alas! my feeble stomach will hardly digest the wing of a small rabbit or chicken.' The king, having finished his entertainment, and drank to the health of the Abbot, departed without having his quality discovered.

"A few weeks after this, the Abbot was sent for by a king's messenger, and committed close prisoner to the tower, where he was kept for some time on bread and water. At last a *sirloin of beef* was set before him, on which the Abbot dined heartily. When he had finished, the king came out from a private place where he had observed the Abbot's change of appetite, and thus accosted him: 'My lord, either presently down with your hundred pounds, or no going from hence. I have been your physician to cure you of your squeamish stomach, and here, as I deserve, I demand the fee for the same.' With this the Abbot was necessitated to comply, and he then returned to his Abbey."





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